IMPLICATIONS OF

FIRST NATIONS DEMOGRAPHY

FINAL REPORT

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Implications of First Nations Demography

Final Report

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Executive Summary

The purpose of this report has been to provide an overview of recent trends in First Nations demography and an assessment of some of the main implications for First Nations communities and populations and the Department of Indian Affairs and Northern Development, which are expected to result from demographic changes in the short (1996-2000) and medium (2001-2010) terms. The study's main findings are summarized below:

Demographic Trends

- In spite of sharp declines in fertility, First Nations population residing both on and off reserve experienced high rates of population growth throughout the 1980-1995 period. Much of this growth occurred during the 1985-1990 period and resulted from the re-instatement and registration provisions of the 1985 Indian Act (Bill C-31). Although this factor will continue to contribute to First Nations population growth in both the short and medium terms, its contribution to future growth is expected to be greatly reduced.

- Declining fertility rates during the 1980-1995 period have not translated into reduced numbers of births. During this period, increases in the size of the population of child-bearing age more than offset the effects of lower fertility rates and contributed to increased numbers of births to First Nations populations. This trend is expected to be maintained throughout both the short and medium term futures.

- Net migration of First Nations population to large urban centres and back to reserves (and away from rural areas and small urban centres) was reported during the 1986-1991 period. This situation reflects a continuation of trends which have been occurring for more than two decades.

- Although rates of First Nations population growth are expected to decline throughout the 1996-2010 period, the population is expected to increase by about 83,600 individuals by the year 2000 and by an additional 135,900 individuals during the 2001-2010 period. Roughly 44 percent of the forecast population increase is expected to occur on reserves. In relation to other provinces/ regions, population increases are expected to be most pronounced in the prairie provinces.

- Continued fertility rate declines, in concert with reduced mortality rates are expected to result in modest shifts in First Nations populations to older age cohorts during the short and medium term futures. Nevertheless, the First Nations reserve populations are expected to retain a *youthful* character, one where younger age cohorts continue to form larger segments of the population. Shifts in the off-reserve population to older age cohorts are expected to be of similar magnitude to those on-reserve during the 1996-2010 period.

- As of 1995, changes to the rules governing entitlement to Indian status (Bill C-31) have had only minor impacts on the size of the population entitled to registered Indian status. It is estimated that at that time, roughly 14,000 children born to registered Indians (about 10 percent of births between 1985 and 1995) lacked entitlement to status as a consequence of the new rules. Most of these children resided off-reserve. The number of off-spring who will lack entitlement for registration is expected to grow (at an increasing rate) throughout the 1996-2010 period. By the 2005-2010 period, it is estimated that 18 percent of the children born to registered Indians will not be entitled to status under the Indian Act.

- More than forty percent of First Nations adopted their rules governing entitlement to band membership. With few exceptions, these rules are expected to create "classes of citizens" within First Nations communities with differing rights and entitlements. Although the population implications of these rules are presently small, a majority of First Nations appear to be at risk of disqualifying large numbers of future generations from band membership. This issue may become significant for some First Nations over the next 10-15 years.

Health Implications

- The number of registered Indian adults affected by diabetes is expected to increase from its 1995 level of about 30,000 to more than 50,000 by the year 2010 because of population growth and aging. Although data were not available on which to base projections, other health conditions which are more common among the older population may experience similar increases.

- Based on current level of demand for non-insured health benefits, the number of pharmacy services provided per year is expected to increase by more than 50 percent over the next 15 years, and the number of dental services provided per year is expected to increase by 32 percent. Annual expenditures for pharmacy benefits are projected to increase by 56 percent (in 1995 dollars) and annual expenditures for dental benefits are projected to increase by 37 percent over the same time period.

Social Welfare Implications

- Increasing social assistance dependency rates combined with increasing populations on reserves have led to rapid growth in the number of social assistance beneficiaries. Based on forecast trends in these factors, the number of beneficiaries on reserves is expected to increase from its current level of about 150,000 beneficiaries to about 250,000 beneficiaries in the year 2010.

Educational Implications

- Given current trends, the number of on-reserve children attending elementary or secondary schools is expected to increase by 25,000 students over the next 15 years, an increase of about 24 percent.

- Registered Indian post-secondary students enrolments have grown rapidly over the 1981-1995 period. Post-secondary enrolment rates have also increased rapidly and are expected to continue to increase. When combined with the expected population growth, this will result in rapid growth in registered Indian post-secondary enrolments over the next 15 years. An increase of about 6,000 students is projected for the 1995-2000 period, and an additional increase of 7,000 students is projected for the 2001-2010 period.

Housing and Infrastructure Implications

- Based on projected numbers of households living on reserves and past rates of housing construction, annual demand for construction of new housing is expected to be similar to the annual construction in recent years. If it is assumed that households will continue to share housing, as projected by Nault et. al. (1993), it is expected that 3,400 housing units will need to be built per year during the 1996-2000 period, and 3,200 will need to be built per year during the 2001-2010 period. If enough housing is to be built to eliminate the sharing of dwellings by more than one family, these numbers increase to 3,900 per year and 3,600 per year for the respective time periods.

- Infrastructure expenditures per person living on reserve increased by almost 50 percent during the 1987-1996 period. Assuming that per person expenditures remain at their 1995/96 level, population growth will result in an increase in annual expenditures of about $260 million (in 1995 dollars) over the next 15 years.

Implications for the Local Economy

- An average of about 1,630 jobs per year would need to be created on reserves across Canada in order to maintain the 1991 on-reserve employment rate. This is slightly lower than the estimated on-reserve rate of job growth in the 1980s. During the following ten-year period (2001-2010) on-reserve jobs would need to increase at a rate of about 1,940 jobs per year to maintain the 1991 employment rate.

- If the goal is to achieve the average Canadian employment rate of about 61 percent, annual employment growth on reserves will need to average about 6,600 during the 1996-2000 period, and about 8,870 during the 2001-2010 period. These figures are about four to five times the rate of job growth during the 1980s.

Implications for the Social and Political Fabric of First Nations

- As a result of changes to the Indian Act in 1985 and membership codes enacted by First Nations, there are now several "classes" of Indians -- those who have both registered Indian status and membership in a band, those who are registered but do not have band membership, and those who have membership but are not entitled to be registered. There is also a group of descendants of registered Indians who are neither members of a band nor entitled to be registered.

- The division of First Nations populations into different classes is likely to lead to a range of issues, including legal challenges, internal conflicts, and intergovernmental disputes. If different reserve residents receive different services or have different entitlements this may lead to friction and possibly to splits in particular communities and calls for separate institutions or governance structures.

- The growth of this new set of divisions among First Nations will have implications for the form and administration of Aboriginal self-government. How will First Nations governments choose to accommodate the various classes of reserve residents in the political process? What about the off-reserve population affiliated with the First Nation, both formally and through ancestry?

- Federal and provincial governments will also need to develop policies with respect to responsibilities for the provision and funding of services to the various on- and off-reserve Aboriginal populations. Will the federal/provincial split in responsibilities correspond to on- and off-reserve geography? Will cost-recovery agreements and mechanisms be put in place? How far does the federal responsibility for Aboriginal people extend? While Canadian governments have been dealing with these questions for years, the emergence of the new classes among the descendants of registered Indians complicates the issue and puts it in new terms.

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1.0 Introduction

An understanding of demographic change is fundamental to medium and long term social and economic planning. The size and distribution of a population in terms of such attributes as age, gender and language affect a wide range of behaviours. Knowledge of the future distribution of the population can be used to help predict the demand for a wide range of products and services. Demographic change among minority populations is also important from the standpoint of understanding the relationship between minority and mainstream cultures and how this relationship may change over time. The effects of demographic change among the registered Indian population are of particular importance to First Nations governments and the federal government because of the wide range of services and responsibilities held by these jurisdictions with respect to registered Indians.

Currently, the Department of Indian Affairs and Northern Development is pursuing a four-year program of research to assess population-related pressures that will affect First Nations and the department. The following study is one part of this research program. The purpose of the study is to describe the nature of demographic change among the registered Indian population of Canada, and to provide a broad overview of the implications of demographic trends particularly for First Nations and the Department of Indian Affairs and Northern Development. The study relies on existing studies and readily available data. Geographically, the study describes national and regional trends and on and off-reserve populations to the extent possible, with an emphasis on the on-reserve population. The study is not intended to provide extensive new analyses of the many issues which are covered, but does include limited analysis required to interpret existing data.

This report is limited in some respects. Because this study did not attempt to generate new data or analyses, the content of the study is restricted to work previously done and data readily available. Also, for some subject areas, data have not been available to this study. In several areas, such as health and community capital expenditures, data availability only allowed for one or two dimensions to be described. Although the view provided is incomplete it is felt that the information has some value in providing examples or a general indication of the changes which might be expected. In addition, the analysis of causal connections among variables is fairly basic and one-way. We recognize that there are many interconnections among the variables which often go in two directions. That is, an outcome variable may, in turn, affect a causal variable. However, a more complete analysis of these complex inter-relationships was beyond the scope of the study, and was not feasible given available data.

The remainder of this section of the report describes study methods, concepts and data sources. Section 2 provides an analysis of past demographic trends and underlying processes which are expected to influence the size and distribution of

the registered Indian population in the future. Section 3 then describes the expected impact of these trends on the population, its size and distribution across various dimensions. Section 4 describes the expected impacts of these population trends on First Nations and on services to registered Indians. Section 5 provides a summary of the study's findings and implications for First Nations, for the Department of Indian Affairs and Northern Development, and for other jurisdictions.

1.1 Geographic Focus and Study Population

In light of the difficulty of obtaining and aggregating data at the level of individual First Nations communities, the study assesses national and, where possible, provincial/regional trends. In this regard, the study also differentiates between on- and off-reserve locations.

The study's primary focus is on First Nations communities and populations. Operationally, First Nations communities include the populations residing on Indian reserves, regardless of registered Indian or band membership status. For those components of the study which relate to off-reserve locations, the study's focus is restricted to registered Indians, although some aspects of the analyses address the non-registered children of registered Indian parents, as well as individuals seeking registration under the 1985 Indian Act. (Changes to the Indian Act implemented in 1985 which affected eligibility for registered Indian status are commonly referred to as "Bill C-31" and will be identified as such in the remainder of this document. The "Bill C-31" population is that which gained status as a result of these changes.)

1.2 Study Time Frame

The study has attempted to standardize the time frame for documenting past trends and projecting future implications, to the extent possible given available data. Trend data have been compiled for the 1980-1996 period when possible, although often data have only been available in a consistent form for part of this period. Some data which come from the Census of Canada are only available for Census years. For other historic trends, particularly trends based on departmental data, five year time intervals have been used. Because 1995 is the most recently available year for registered Indian population data and for many other types of departmental data, the years 1980, 1985, 1990 and 1995 have often been used.

For purposes of assessing implications, the analyses and discussion focus on two time frames, the short and medium term. Operationally, the short term is defined as a five year period spanning 1996-2000, while the medium term includes the ten year period from 2000 to 2010.

1.3 Key Demographic Trends

For purposes of this study, eleven main dimensions of First Nations populations/communities were identified (see Table 1). These dimensions relate to specific demographic characteristics (such as population size, age and gender composition, and household/family composition), legal/political/cultural characteristics (such as registration and membership status and cultural affiliation) and socio-economic characteristics (such as the volume and nature of human resources and health status). Changes in these dimensions of the population/community can be expected to have a variety of implications for service delivery requirements (demand), First Nations governance and the well-being of First Nations populations.

One of the central tasks of this study relates to identifying how these dimensions of First Nations populations and communities are likely to change in the short and medium term. In this regard, it is useful to not only compile data for purposes of identifying how these dimensions have changed in the recent past (i.e. past trends), but also to explore some of the underlying processes and factors which have contributed to these trends. Such an understanding may provide a stronger basis for projecting or extrapolating trends into the future.

As shown in Table 1, the study identified nine factors which can have a direct influence on First Nations populations and communities. These factors include several demographic processes, as well as specific legal/political processes. The key demographic processes include fertility, mortality, migration, family formation/dissolution and marriage patterns.[1] Collectively, these processes play a key role in shaping most dimensions of the population or community, especially in the longer term. Within the context of First Nations populations and communities, select dimensions of the population/community are also likely to be influenced by recent legal/political processes (events), most notably Bill C-31's provisions concerning restoration of status, future entitlement to registration, and band membership.

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1. Among the registered Indian population, marriage patterns, that is, marriage within the group (endogamy) as opposed to marriage outside the group (exogamy) have particular implications for the legal status of the children of these marriages, as will be discussed below. The term "marriage" is used in this report to connote biological union resulting in the birth of children rather than marriage in the legal sense.

Table 1

Factors Influencing Key Demographic, Legal/Political/Cultural and Socio-Economic Dimensions

Factor	Demographic Dimensions						Legal, Political/Cultural Dimensions			Socio-Economic Dimensions	
	Population Size	Age Structure	Gender Structure	Number of Households/ Families	Household/ Family Composition	Household/ Family Size	Registration Status Composition	Membership Status Composition	Cultural Affiliation	Human Resources Composition	Health Status Composition
Fertility	X	X		X	X	X				X	
Mortality	X	X	X	X	X	X					
Migration	X	X	X	X	X	X	X	X	X	X	X
Family Formation				X	X	X					
Family Dissolution				X	X	X					
Endogamy/Exogamy	X						X	X	X		
C-31 Restoration/Registration	X	X	X	X			X	X	X	X	
Indian Registration Rules	X	X					X	X	X		
Band Membership Rules								X	X		

1.4 Effects of Demographic Change on First Nations Populations/Communities

The study focuses on a set of circumstances and services which are likely to be affected by demographic change. These include the provision of housing, social welfare services, health services, education, local infrastructure, the local economy and the social and political fabric of First Nation communities (see Table 2). Because it is intended as an overview of available documentation and major trends, this study has had to simplify the many potential inter-relationships among the various factors. In particular, the causal relationships have been treated as if they operate in only one direction; that is, the study only identifies the effects of demographic outcomes on services, even though it is known that the provision of services can also affect demographic change. For example, an increased population on reserves leads to increased demand for housing, but an increase in the construction of housing on reserves may lead to an increase in the reserve population.

It should also be noted that there is the potential for Aboriginal self-government institutions and processes to affect demographic variables, depending on how it is implemented. If self-government results in increased economic activity and spending or improved infrastructure on reserves, this may increase migration to the reserves. If self-government leads to difficulties and uncertainty concerning reserve governance or services, it may have the opposite effect. Many other such "feedback" and indirect effects can be identified, but are beyond the scope of this study. We have restricted ourselves only to the most clear and direct demographic effects.

1.5 Data Requirements and Data Sources

The study relies primarily on existing studies and data. Key data sources used in the study are briefly described below.

The Indian Register

Basic historic registered Indian population data, including Bill C-31 registration information, was obtained from the Indian Register, by age group and gender for the years 1980, 1985, 1990 and 1995. This information was used to identify various historic rates of service demand. The 1995 data were also used to assess demographic processes, such as characteristics of the C-31 population and fertility rates. While the Indian Register provides the most complete set of data on the registered Indian population, the fact that the Indian Register is maintained to serve a particular set of functions prescribed by the Indian Act imposes certain limitations on its unintended application to demographic analysis. These limitations include a gap of up to

Table 2

Population Services and Community Attributes Potentially Affected by Key Demographic, Legal/Political/Cultural, and Socio-Economic Dimensions

Dimension	Population Services/Community Attributes Affected						
	Housing	Social Welfare	Health	Education	Local Infrastructure	Local Economy	Social/ Political Fabric
Population Size	X	X	X	X	X	X	X
Age Structure	X	X	X	X	X		X
Gender Structure			X				X
Number of Households/Families	X				X		
Household/Family Composition	X	X					
Household/Family Size	X						
Registration Status Composition	X	X	X	X			X
Membership Status Composition	X	X	X	X			X
Cultural Affiliation							X
Human Resources Composition		X		X		X	X
Health Status Composition	X	X	X				

several years in the reporting, by individuals, of events such as births, deaths and marriages. On and off-reserve residency data are sometimes contentious, particularly because the on-reserve population is a consideration for some types of funding. Also, apart from identifying the off-reserve population, the Indian Register does not identify in what community or province the off-reserve population resides.

Customized Census Tabulations

Indian and Northern Affairs Canada has commissioned and compiled a series of customized tabulations from the 1981, 1986, and 1991 Censuses of Canada. These tabulations defined customized geographies and populations which included registered Indians as one category. The tabulations represent a rich source of detailed information on the registered Indian population, covering the wide range of variables available from the Census. At the same time, the tabulations were produced for various purposes, and the definitions and categories used for many of the variables vary from Census to Census and according to the purpose for which they were prepared. The Censuses themselves also have some weaknesses in that there have been inconsistencies in the wording of Census questions concerning ethnicity and Indian status, and a number of reserves have not participated in the Census process in each Census year.

Aboriginal Peoples Survey (APS)

APS profiles were obtained for Canada and the Provinces which provide general data on the registered Indian population as of 1991. Because the profiles do not include cross-tabulations, and because the APS population is somewhat different from either the Census or the Indian Register populations, profile data were not used in this study to a great extent. However, some custom APS tabulations prepared for the Royal Commission on Aboriginal Peoples were obtained and were used on selected topics.

Indian Affairs Publications

Two annual publications of the Department of Indian Affairs and Northern Development, *Basic Departmental Data* and *Indian Register by Sex and Residence* were used as the source for data concerning a variety of subjects, including educational enrolments, social assistance, and children in care as well as regional and national population data. While the Basic Departmental Data series provides a wide range of administrative and demographic data, the source has to be used with caution due to changing administrative practices, definitions and

data collection procedures. It should also be noted that the population counts in the Indian Register contain errors arising from late reporting of events (as mentioned above). Generally the *adjusted* Indian Register would be the preferred source, if available, but this source was not always available at the level of detailed required for various years. Therefore unadjusted Indian Register data were used as the next best source.

Nault et. al. (1993) Population Projections

This study provides on and off-reserve population projections by region, gender and age group which were used in this study as the basis for describing a variety of rates and trends. (Further discussion of this source is provided in Section 3.)

Nault and Chen (1993) Household Projections

This study provides projections of registered Indian households and families which are used in this study as the basis for describing household-related rates and trends.

A number of other sources were also used or reviewed, including research studies and administrative or customized data. Customized Census tabulations and administrative data were provided by Indian Affairs departmental staff concerning such areas as capital expenditures and social assistance beneficiaries. Health Canada provided a special tabulation of Non-Insured Health Benefits data. In addition to these sources, the study has also used the findings from a variety of demographic and issue-specific studies, such as those by Clatworthy and Smith (1992) on the implications of Bill C-31, studies of social assistance by Chen et. al. (1994) and by Goss Gilroy Inc. (1995), Gauvin and Fournier's (1992) study of marriage rates, the comparison of 1981 and 1991 Aboriginal data by Kerr and others (1995) and Bobet's preliminary draft concerning the prevalence of diabetes (1996).

A substantial amount of effort went into attempting to match data sources, definitions and time periods. Frequently such matching could not be done, and compromises in terms of time periods, geographic coverage or level of precision had to be made. One key issue was the identification of consistent and appropriate populations for the purposes of the study. For example, the Aboriginal Peoples Survey was designed to survey those who identify themselves as Aboriginal, while the 1991 Census identified those with Aboriginal ancestry.

2.0 Recent Trends In First Nations Demography

This section of the report provides a brief discussion of recent trends in First Nations demography. In this regard, the report describes recent changes in several key dimensions of First Nations populations and identifies historic trends in several underlying factors which have contributed to these changes. These factors include: fertility, mortality, migration and the 1985 amendments to the Indian Act (Bill C-31). Where data permit, demographic trends are presented both at the national and provincial/regional levels and for the on- and off-reserve components of First Nations populations.[1]

2.1 Fertility and Mortality

Within the context of a population that does not experience significant levels of immigration or emigration, the processes of fertility and mortality play the central role in shaping several aspects of the population's demographic structure.[2] Several studies have documented historic trends in registered Indian fertility patterns. In general, these studies have noted that the registered Indian fertility rate has declined sharply over the course of past three decades, but remains considerably higher than that of the Canadian population. Recent research, undertaken by Nault et al (1993) using data contained on the Indian register, provides point in time estimates of the total fertility rate (i.e. the number of births per woman) of Canada's registered Indian population for the 1970-1990 period, as well as projected estimates for the 1995-2015 time period. Estimates for the 1970-1990 time period and projections for the 1995-2010 period are presented in Figure 1. These estimates suggest that the registered Indian fertility rate has declined from about 5.7 children per female in 1970 to about 2.7 children per female in 1990. A further decline to about 2.6 children per female is projected for 1995.

Analysis reported by Nault et al also revealed that during the 1970-1990 time period, the registered Indian fertility rate declined more sharply than that of the general Canadian population. In 1990, however, the total fertility rate of the registered Indian population remained about 49 percent higher than that of the general population (1.8 children per female). On the basis of past trends, Nault et al

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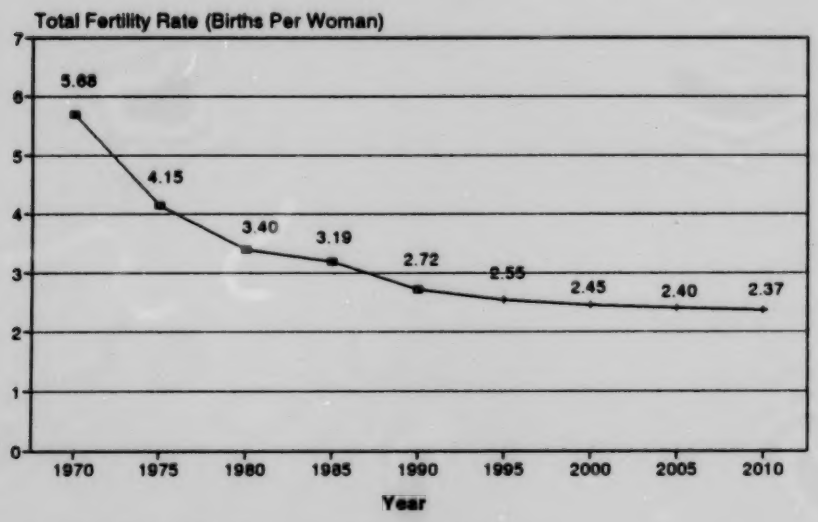
1. Unless otherwise noted, the term First Nations population is used to refer to the registered Indian population.

2. Although recent data concerning registered Indian emmigration volumes are not available, the volume of registered Indian in-migration from outside of Canada during the 1986-1991 period totaled only 1,310 individuals (according to the Aboriginal Peoples Survey. As such, international migration is believed to have little impact on the characteristics of Canada's registered Indian population.

Figure 1

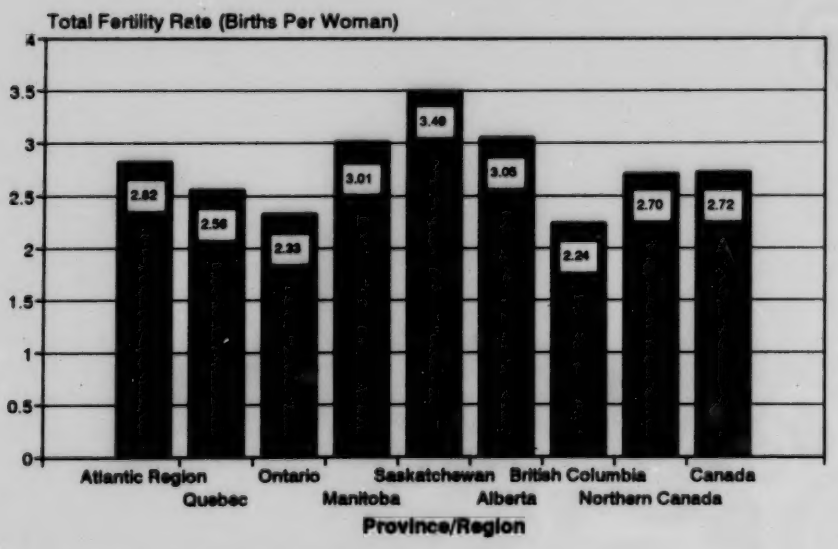
Estimated Total Fertility Rate (TFR) of Registered Indian Population, Canada, 1970-2010



Source: Indian Register as reported by Nault et al (1993)
1995 and subsequent rates as projected by Nault et al (1993), medium growth scenario.

Figure 2

Estimated Total Fertility Rate (TFR) of Registered Indian Population, Canada, Provinces/Regions, 1990



Source: Indian Register as reported by Nault et al (1993)

project that fertility levels among the registered Indian population will continue to decline in both the short and medium term, but remain above the level of Canadian population until after the year 2010.

Fertility data compiled by Nault et al also reveal quite large provincial/regional differences in registered Indian fertility. In 1990, fertility rates ranged from roughly 2.2 children per female in British Columbia to roughly 3.5 children per female in Saskatchewan (See Figure 2). In addition to Saskatchewan, Manitoba, Alberta and the Atlantic region also reported registered Indian fertility rates exceeding the national average. Registered Indian fertility rates in other provinces/regions (especially British Columbia, Ontario and Quebec) were below the national average. As with the national rate, fertility rates in all provinces/regions declined throughout the 1970-1995 time period.

Although evidence presented by Nault et al (1993) and several other researchers, reveals quite clearly that fertility levels among Canada's registered Indian population have declined sharply, lower fertility has not resulted in declining numbers of births. In fact, recently published data from the Medical Services Branch of Health Canada (Health Canada [1996]), reveals that the number of registered Indian births increased from about 7,500 in 1980 to more than 12,200 in 1993. Between 1980 and 1993, the crude birth rate (which measures the number of births annually per 1000 population) remained largely unchanged at about 27.5 births per 1000 population. Increasing numbers of registered Indian births in concert with declining total fertility rates are attributable to growth in the size of registered Indian population of child-bearing age. Throughout the time period, the size of the child-bearing age population has increased at rates which more than offset the recorded declines in fertility.[1] Continued growth in the size of the child-bearing age population is projected to occur throughout the 1995-2010 period and in spite of further declines in fertility, is expected to contribute to increasing numbers of registered Indian births throughout both the short and medium term (as seen in Figure 3).[2]

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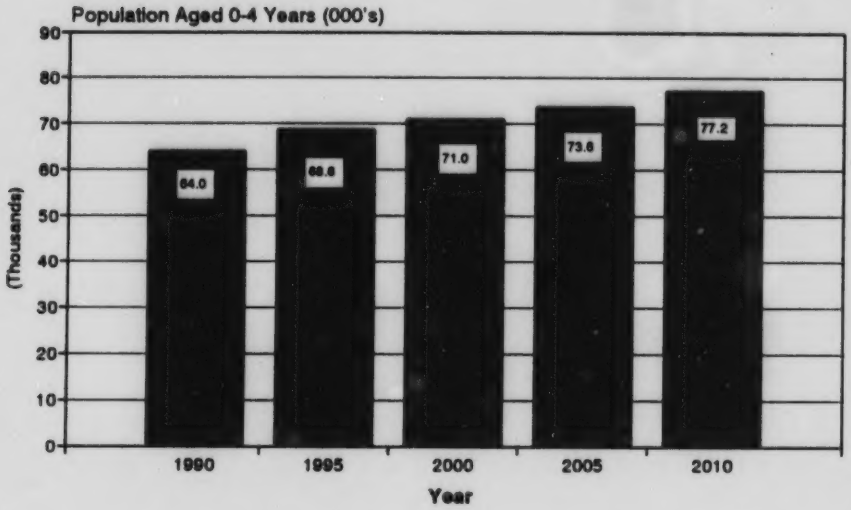
1. Although some portion of the growth in the child-bearing age population of registered Indians is attributable to Bill C-31 registrations and re-instatements, significant expansion of this population age group has occurred due to aging of the non-C-31 component of the population.

2. Growth in the size of the child bearing population can also be expected to occur as a result of inter-marriages between Indian males and non-Indian females. Under the 1985 revisions to the rules governing entitlement to Indian registration, the off-spring of Indian male/non-Indian female parent combinations may be entitled to registration (depending upon the registration status of the Indian father). See sub-section 2.3 of this report for additional information concerning this issue).

Figure 3

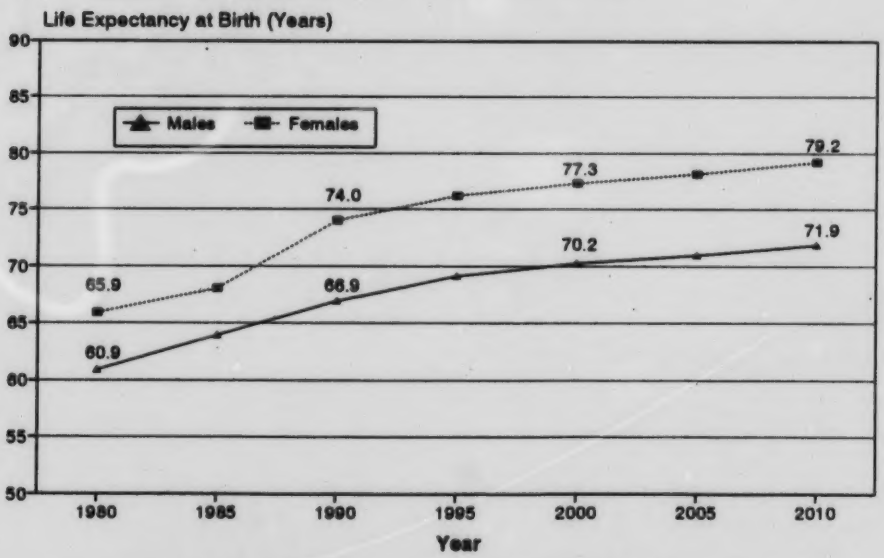
Estimated Number of Surviving Births During Previous 5 Year Period, Registered Indian Population, Canada, 1990 - 2010



Source: Indian Register as reported by Nault et al (1993), medium growth projections.

Figure 4

Estimated and Projected Life Expectancy at Birth by Gender, Registered Indians, Canada, 1980 - 2010



Source: Derived by Nault et al (1993) from adjusted Indian Register data. Estimates for 1995 and subsequent years are projected.

Continued declines in mortality are also expected to contribute to growth in Canada's registered Indian population in the short and medium term. Data reported by Nault et al (1993) reveal that between 1980 and 1990, life expectancy at birth of registered Indian females increased from roughly 66 years to 74 years, while that of males increased to roughly 67 years from 61 years (Figure 4). During this period, increases in life expectancy at birth were also reported for the general Canadian population.[1] Although the size of the gap in life expectancy between the registered Indian and Canadian population was reduced during the period, sizable differences between the two populations remained in 1990 (about 6 years for females and 8 years for males).

Data concerning life expectancy at birth are generally consistent with recently published data (Health Canada, 1996) concerning crude mortality rates (i.e. the number of deaths per 1000 population). Among registered Indians, the crude mortality rate declined from about 6.7 deaths per 1000 in 1980 to about 5.5 deaths per 1000 in 1993. Age-standardized mortality rates reveal similar levels of decline during this period.

On the basis of past trends, further improvements in mortality and life expectancy are projected to occur in the short and medium term. As illustrated in Figure 4, life expectancy at birth is projected to increase to about 79 years for registered Indian females and to about 72 years for registered Indian males by year 2010. Although the impacts of these improvements on the structure of Canada's registered Indian population will be slight in the short term, in the longer term reduced mortality levels will contribute to shifts in the population's age structure to older cohorts.

One of the most significant trends in registered Indian mortality relates to a dramatic reduction in infant mortality. Between 1980 and 1993, registered Indian infant mortality rates declined from about 24 to 11 deaths per 1000 live births. In spite of sizable reductions during the 1980-1993 period, the registered Indian infant mortality rate remains about 60 percent higher than that of the general Canadian population. The gap between the two populations, however, narrowed considerably during the period. Health Canada's data suggest that most of the decline in

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1. Although some recent data have been reported on life expectancy, and mortality rates exist for the registered Indian populations of Canada's provinces/regions, the relatively small number of deaths reported at the provincial/regional level tend to produce inconsistent patterns and trends. Recent data concerning age-standardized mortality rates of registered Indians reported by Health Canada, for example, suggest that mortality rates in most provinces/regions declined between 1980 and 1993. These declines appeared to be most pronounced in Northern Canada and in the prairie provinces. Health Canada's data, however, also reveal that age-standardized mortality rates among registered Indians in Quebec and the Pacific Region have increased recently (since 1988) and were higher in 1993 than in 1980. These data, however, should be interpreted with caution as Health Canada's reporting procedures (in particular data coverage) are variable across provinces/regions.

registered Indian infant mortality has resulted from a reduction in neonatal deaths (i.e. deaths during the initial 28 days following birth). These reductions have been attributed, by Health Canada, primarily to improved access to health care services.

2.2 Bill C-31 Registrations and Re-instatements

Although fertility and mortality will continue to play a central role in shaping registered Indian demography, especially in the longer-term, the 1985 amendments to the Indian Act (widely known as Bill C-31), have produced the most significant changes to the population's demographic structure over the last decade.

Bill C-31, enacted in April of 1985, contained three sets of provisions with the potential to impact on First Nations demography. These provisions related to:

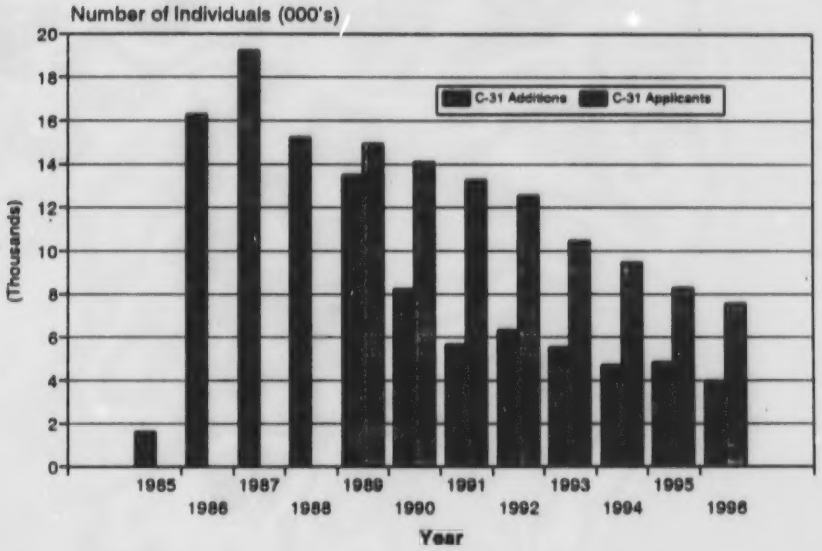
- the re-instatement of registered Indian status to individuals who had lost status through prior versions of the Act and for the first time registration of their children;
- new rules governing entitlement to Indian registration for all children born to a registered Indian parent after April 17, 1985 (i.e. status inheritance rules); and
- the opportunity for individual First Nations to establish their own rules and provisions governing membership (i.e. band membership rules).

Although much attention has been paid to the consequences of the initial set of provisions concerning re-instatement and registration, the consequences and impacts of the other two sets of provisions on First Nations populations may become much more substantial in the medium and longer term, especially off reserve.

The most obvious and widely documented demographic impact of Bill C-31 relates to its provisions for new registrations and re-instatements. Figure 5 illustrates the number of registrations under Bill C-31 annually to December 31, 1996, as well as the number of new applicants for registration received by the department for the 1989 - 1996 period. As of December 31, 1996, more than 104,000 individuals had been registered under Bill C-31. At that time, individuals registered under Bill C-31 represented about 17 percent of the national registered Indian population.

Figure 5

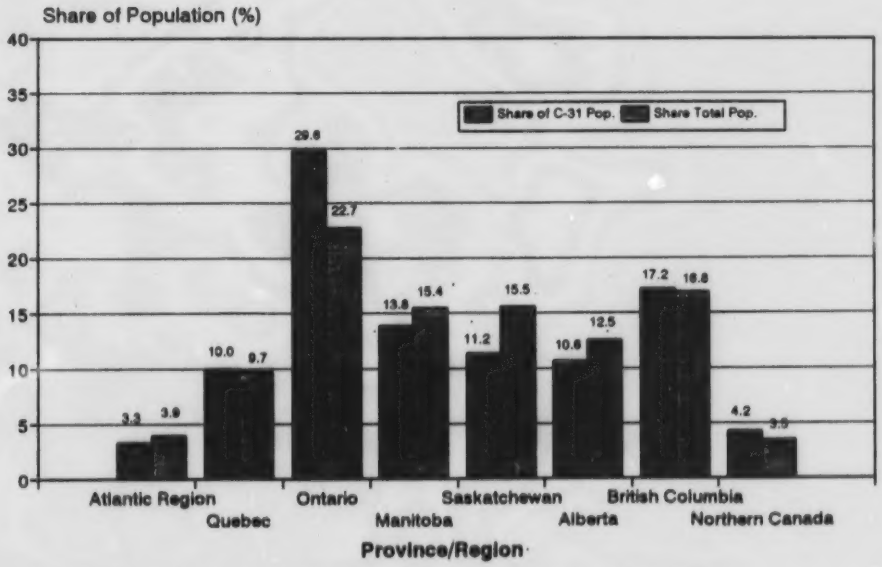
Number of New Bill C-31 Applicants and Registrations by Year, Canada, 1985-1996



Source: Indian and Northern Affairs Canada, S4 Reports, 1985-1996, Basic Departmental Data, 1994

Figure 6

Distribution of C-31 and Total Registered Indian Population by Province/Region, to December 31, 1995



Source: Indian and Northern Affairs Canada, Indian Register, December 31, 1995

The majority of these additions to the Indian Register involved re-instatements of women who lost status through marriage to non-Indians prior to the amended Act and the children of these unions.[1]

Figure 5 also shows that since the peak of roughly 19,000 registrations in 1987, annual C-31 additions have fallen sharply and totaled roughly 4,000 individuals in 1996. New applicants for registration have also fallen sharply throughout the period and totaled about 7,800 in 1996. This pattern of registrations and new applications clearly suggests that the bulk of registrations under Bill C-31 have already occurred. Nevertheless, the data also suggest that additional applicants and registrations can be expected for some time to come, as there are no "sunset" clauses in the revised Act.

Figure 6 presents data on the distribution of C-31 registrants among provinces/regions as of December 31, 1995 and comparative data for the total registered Indian population. These data reveal that in relation to the total registered Indian population, the impact of Bill C-31 registrations in terms of population increases has been most pronounced in Ontario, British Columbia, Quebec and Northern Canada. The share of the national C-31 population residing in these provinces/regions exceeds the provincial/regional share of the national registered Indian population. In the prairie provinces (especially Saskatchewan) and the Atlantic region, the reverse situation applies. In these regions, Bill C-31 has had a smaller proportionate impact in terms of population increases.

Figure 7, which illustrates the proportion of C-31 registrants residing on reserve nationally and by province/region, reveals that a relatively small segment of C-31 registrants reside on reserves. According to the Indian register (as of December 31, 1995), at the national level roughly 15,650 of 100,958 C-31 registrants (about 15.6 percent of the total) resided on reserves or crown land. Sizable variations in the share of C-31 registrants residing on reserves existed among provinces/regions. Among C-31 registrants, residency on reserve was most common in Manitoba (25.6 percent), the Atlantic region (24.2 percent), Quebec (21.1 percent), Northern Canada (19.7 percent) and British Columbia (19.1 percent). The proportion of C-31 registrants residing on reserve was below the national average in all other provinces/regions. Residency on reserve among C-31 registrants in Ontario (7.8 percent) and Saskatchewan (10.8 percent) was least common.

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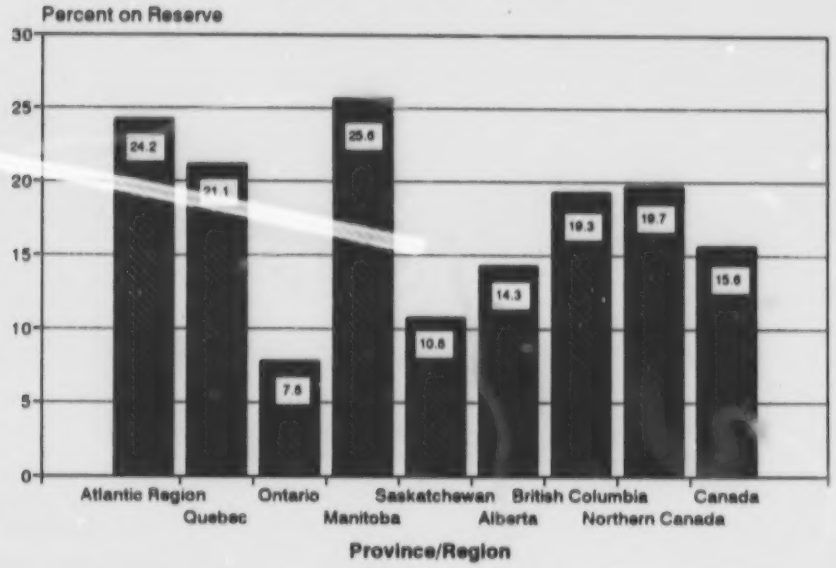
1. Bill C-31's reinstatement and registration provisions appear to have had some impact on the gender composition of the registered Indian population, especially off reserve. The ratio of males to females declined from about .89 in 1985 to about .83 in 1990 among registered Indians residing off reserve. No changes were reported for the ratio of males to females among the population residing on reserve.

Figure 7

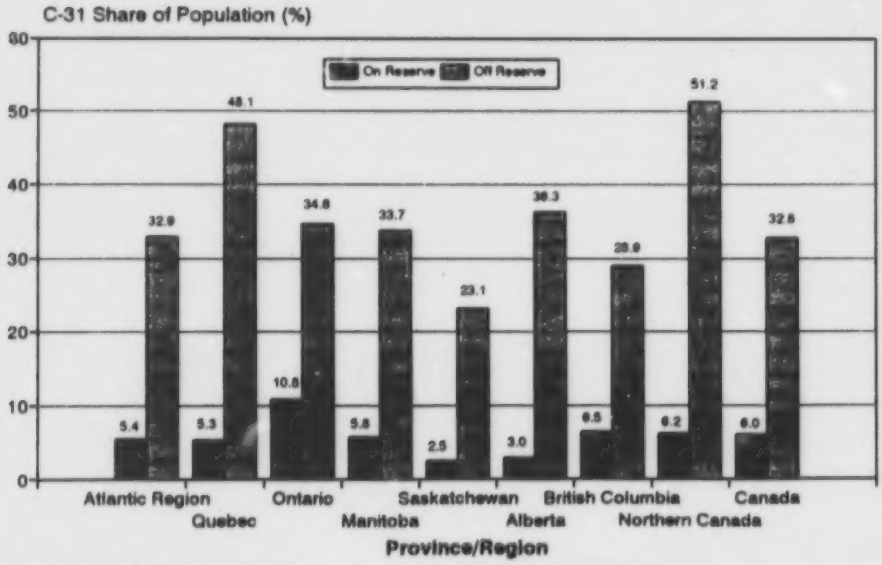
Proportion of C-31 Registrants Residing On Reserve, by Province/Region, Canada, 1995



Source: Indian Register, December 31,1995

Figure 8

C-31 Share of Registered Indian Population On and Off Reserve by Province/Region, Canada, to December 31, 1995



Source: Indian and Northern Affairs Canada, Indian Register, December 31, 1995

As shown in Figure 8, Bill C-31's re-instatement provisions have in general not contributed to large population increases on reserve. According to the Indian register, as of December 31, 1995, C-31 registrants represented only about 6 percent of the registered Indian population residing on reserves. At that time, the C-31 share of the reserve population was highest in Ontario (10.8 percent) and lowest in Saskatchewan (2.5 percent) and Alberta (3.0 percent). In all other provinces/regions, C-31 registrants accounted for between 5.3 and 6.5 percent of the registered Indian population residing on reserve.[1]

Figure 9 identifies the distribution of First Nations according to the share of their on-reserve population who are C-31 registrants. As illustrated in the figure, C-31 registrants formed a relatively small segment of the registered Indian population residing on a large majority of First Nations reserves. For example, C-31 registrants represented less than 10 percent of the registered Indian population residing on reserve for roughly 81 percent of First Nations. The figure also shows that a small portion of First Nations have experienced sizable increases in their on-reserve registered Indian population through Bill C-31's registration and re-instatement provisions. Forty-one (41) First Nations representing about 7 percent of all First Nations reported C-31 populations which exceeded 20 percent of their on-reserve registered Indian population. C-31 registrants accounted for more than 30 percent of the on-reserve registered Indian population for 20 First Nations (about three percent of all First Nations). Indian Register data suggest that although a small number of First Nations reserve communities have experienced significant increases in the size of the registered Indian population as a consequence of Bill C-31's registration and re-instatement provisions, impacts with respect to the size of the registered Indian population residing on most reserves has been modest.[2]

Figure 8 (presented previously) also reveals clearly that the population impacts of Bill C-31 have been most significant in terms of increasing the size of the off-reserve registered Indian population. Nationally, C-31 registrations represented nearly one-third of all registered Indians residing off reserve and formed a majority of the off-reserve population in Northern Canada (51.2 percent). High concentrations of C-31 registrants among the off-reserve registered Indian population also existed in Quebec (48.1 percent). By way of contrast, Saskatchewan (23.1 percent) reported the lowest level of C-31 registrants among the off-reserve population. In all other provinces/ regions, C-31 registrants accounted for between 28.9

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1. The data reported in Figure 8 relate to the registered Indian population reporting residency either on reserve or on crown land.

2. The relatively small impact of C-31 registrations on the size of the population of most First Nations reserves (which are suggested by the data to 1995) appears to be in constrast with the expressed concerns raised by several First Nations, as presented to the 1990 Bill C-31 impact study (see Indian Affairs and Northern Development, 1990).

and 36.3 percent of the off-reserve registered Indian population.

2.3 Bill C-31's Status Inheritance Rules

In addition to registration and re-instatement provisions, Bill C-31 contained new rules governing entitlement to Indian registration for all children born to registered Indians after April 17, 1985. These rules, which are contained in Section 6 of the amended Indian Act, create the potential for quite significant impacts to the size and demographic structure of Canada's registered Indian population and First Nations communities, especially in the medium and longer term.

Under the new provisions, registered Indian status is now determined at birth and cannot be lost or restored. Children of registered Indians may be entitled to registration under one of two sub-sections of Section 6. A child is entitled to registration under sub-section 6(1) if both of the child's parents are (or are entitled to be) registered Indians. A child is entitled to registration under sub-section 6(2) if one of the child's parents is (or is entitled to be) registered under sub-section 6(1) and the other parent does not have legal Indian status (and thus is likely to be non-Indian). A child is *not entitled* to registration if one of the child's parents is registered under sub-section 6(2) and the other parent is non-Indian. In other words, after two successive generations of out-marriage, off-spring are not entitled to Indian registration. The new rules imply that rates of exogamy or out-marriage will play a central role in determining the size and characteristics of the population entitled to Indian registration in the future. Over time, First Nations with high rates of out-marriage can be expected to experience declines in the share of their off-spring who are entitled to Indian registration. This situation is also likely to result in declines in the size of First Nations populations entitled to registration.

Very little by way of research presently exists concerning the marriage patterns of Canada's registered Indian population. Gauvin and Fournier (1992) have provided historical documentation of the number of formally registered marriages among registered Indians for the 1975-1990 period, although data reported for the period after 1985 were regarded to be unreliable due to reporting changes. This study identified the number of in-marriages (i.e. marriages between two registered Indians) as well as the number of out-marriages (i.e. marriages between registered Indians and non-Indians). Clatworthy and Smith (1992) developed estimates of out-marriage rates for the 1985-1991 period using data concerning the relationship of the Section 6 status of children born after April 17, 1985 and the Section 6

status of the population of child-bearing age. [1]

Figure 10 presents selected findings of the Gauvin and Fournier study (for the 1975-1985 period) and estimates prepared for this study for 1990 and 1995 using the methodology developed by Clatworthy and Smith.[2] Although based on different methodologies and prepared for different time periods, the two approaches suggest that the rate of out-marriage among Canada's registered Indian population has remained relatively constant over the 1975-1995 period. For the five year period ending December 31, 1995, the national rate of out-marriage was estimated to be about 33 percent, roughly equivalent to the average rate reported by Gauvin and Fournier for the 1975-1985 period.

Estimates have also been prepared for this study for the registered Indian populations residing on and off reserve in Canada's provinces/regions. Figures 11 and 12 present these estimates for the on- and off-reserve populations, respectively. Comparison of the figures suggests much higher rates of out-marriage among the registered Indian population residing off-reserve.[3] At the national level the estimated rate of out-marriage off-reserve during the five year period ending in 1995 was 57.4 percent, compared to 22.8 percent on reserve.

The figures show wide variations in out-marriage rates among provinces/regions for both on- and off-reserve populations. Among the on-reserve population, rates of out-marriage were above the national average in Northern Canada (47.0 percent), Saskatchewan (29.1 percent), Manitoba (26.3 percent) and the Atlantic region (26.1 percent). Quebec (12.3 percent) and British Columbia (17.0 percent) had the lowest out-marriage rates on reserve. Off reserve, rates of out-marriage were highest among registered Indians in the Atlantic region (88.9 percent), Quebec (75.6 percent), and Northern Canada (66.6 percent). Compared to other provinces/regions, out-marriage rates among off-reserve registered Indians in British Columbia (49.0 percent) and Saskatchewan (49.2 percent) were much lower.

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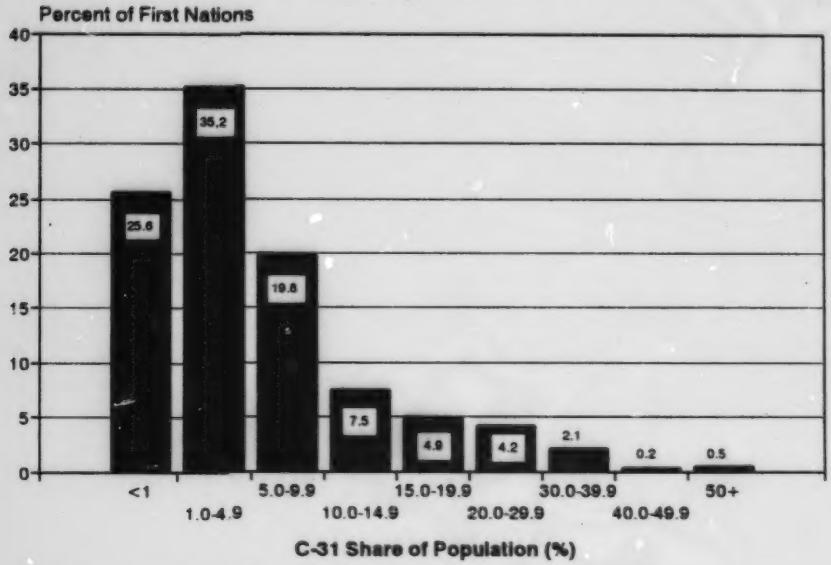
1. The procedure employed by Clatworthy and Smith (1992) does not estimate the actual number of marriages, but rather the probability of a child being born to an Indian/non-Indian parent combination. The procedure flows from the logic of the inheritance rules contained in Section 6 of Bill C-31.

2. Data presented by Gauvin and Fournier have been converted into estimates of conditional probabilities. These conditional probabilities can be interpreted as follows: Given that a registered Indian married during the time period, what is the probability that the marriage was to a non-Indian? This measure of out-marriage is similar to that developed by Clatworthy and Smith (i.e. given that a child was born, what is the probability that the child was born to one Indian and one non-Indian parent?)

3. Out-marriage rates on and off reserve should be interpreted with caution. The marriage of a reserve resident to a non-Indian may lead to movement off reserve.

Figure 9

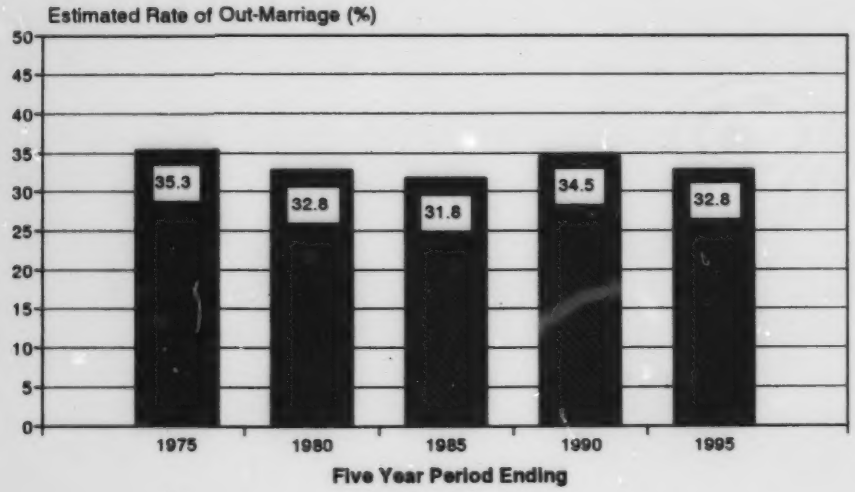
First Nations Showing Distribution by C-31 Share of Total Population On Reserve, Canada, 1995



Source: Indian Register, December 31,1995

Figure 10

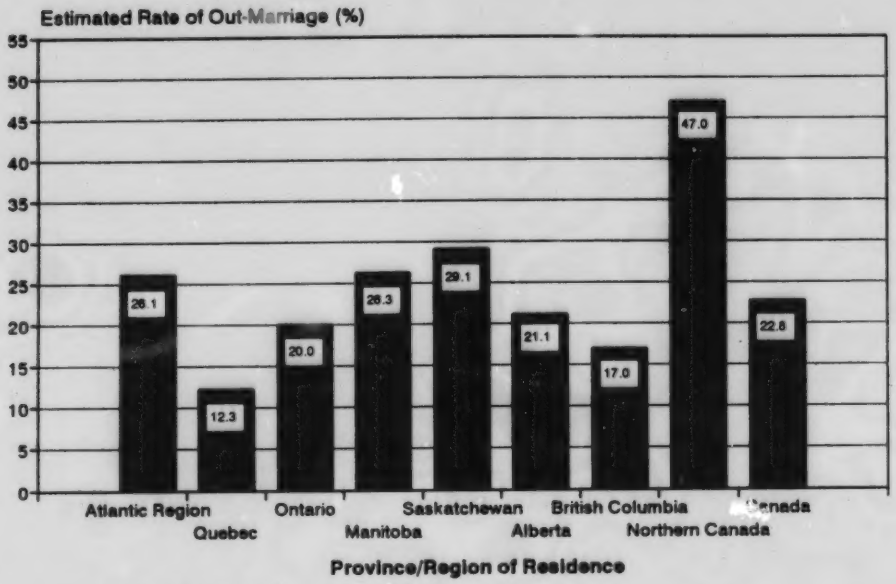
Estimated Rate of Out-Marriage Among Registered Indian Population, Canada, 1970-1995 (Five Year Average)



Source: 1970-1985 data derived from Gauvin and Fournier (1992)
1986-1995 estimates derived from IRS data on Section 6 status of children and the Section 6 status of the child-bearing age population.

Figure 11

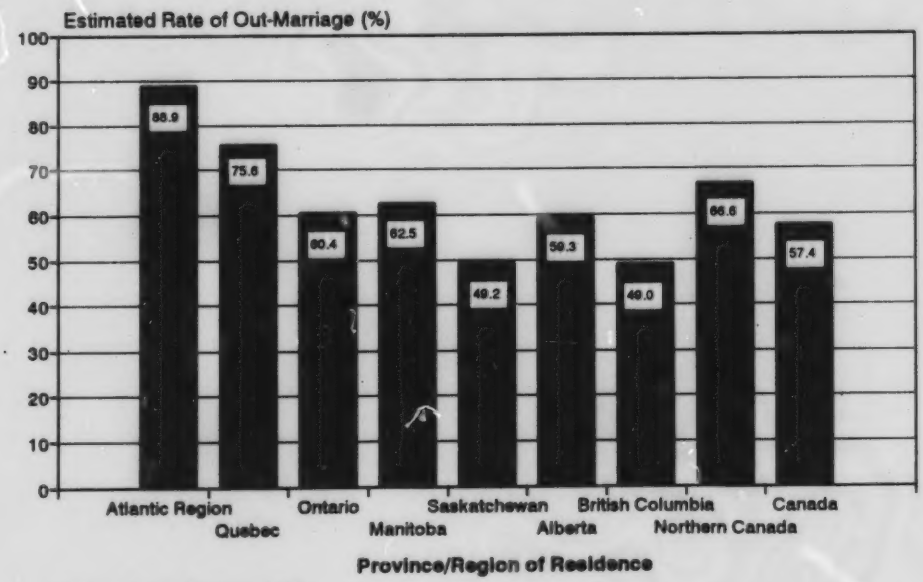
Estimated Rate of Out-Marriage Among Registered Indians Residing On Reserve by Province/Region, Canada, 1995



Source: Indian Register, 1995

Figure 12

Estimated Rate of Out-Marriage Among Registered Indians Residing Off Reserve by Province/Region, Canada, 1995



Source: Indian Register, 1995

As was the case with C-31 registrants, wide variations in rates of out-marriage exist among First Nations populations and reserves. Figure 13 illustrates the distribution of First Nations communities (on and off reserve) by out-marriage rate. Most reserve populations appear to have relatively low rates of out-marriage. Among 491 reserve communities for which out-marriage estimates could be calculated, 202 (or roughly 41 percent) had out-marriage rates below 20 percent. Moderate rates of out-marriage (between 20 and 39.9 percent) were estimated for an additional 213 reserve communities (43 percent). Seventy-six (76) reserve communities (or about 15 percent) were estimated to have an out-marriage rate of 40 percent or higher.[1]

In contrast with the situation on most reserves, a sizable majority of First Nations populations residing off reserve exhibited high rates of out-marriage. Rates of out-marriage of 50 percent or higher were estimated for 263 First Nations. This represents roughly two-thirds of the 398 off-reserve First Nations populations for which rates could be calculated. Fifty-one (or 13 percent) of off-reserve First Nations were estimated to have out-marriage rates of 80 or more percent during the 1991-1995 period.

Little is presently known about the relationship between out-marriage and other community characteristics. One obvious factor influencing out-marriage is community size. As the size of the pool of potential marriage partners can be expected to increase with community size, one would expect rates of out-marriage to be lower in larger communities. Figure 14, which identifies the average out-marriage rate for First Nations reserve populations of varying size reveals (as expected) an inverse relationship between out-marriage rate and community size. The average out-marriage rate for reserve communities with populations under 100 individuals was roughly 54 percent, more than three times the average rate for reserve communities with populations of 5,000 or more. The figure also suggests that the effect of increasing community size is most significant for communities with small populations. For example, reserve communities with populations between 100 and 249 individuals were estimated to have an average out-marriage rate of about 27 percent, or one-half that estimated for communities with populations under 100 individuals.

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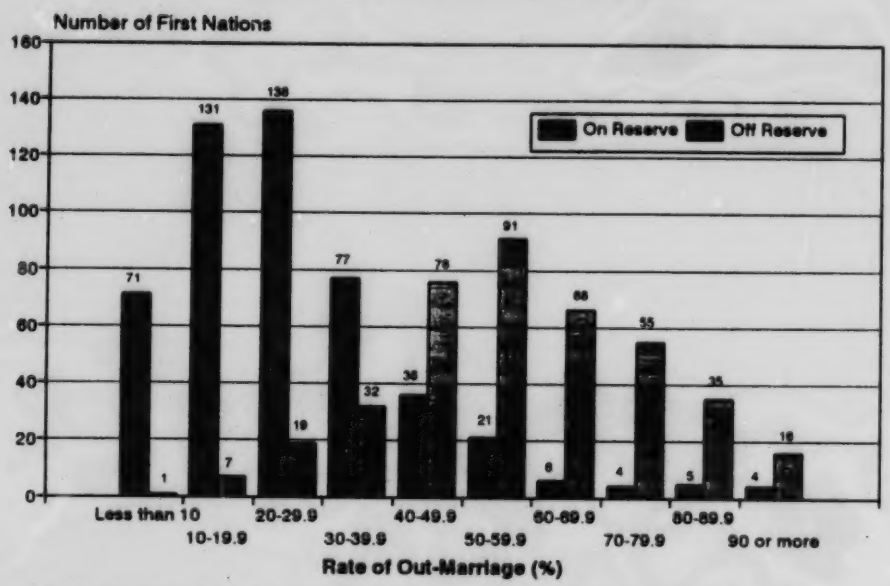
1. Insufficient data on births prevented estimation of out-marriage rates for about 100 First Nations. In general, these First Nations contained relatively small populations (less than 100 individuals). As evidence presented later in this report reveals an inverse relationship between out-marriage rates and population size, the possibility exists that many of the First Nations for which out-marriage rate estimates could not be developed, are characterized by high out-marriage rates. The distributional data on out-marriage rates reported above should be interpreted in light of this possibility. This situation also applies to data presented for off-reserve First Nations populations.

Figure 13

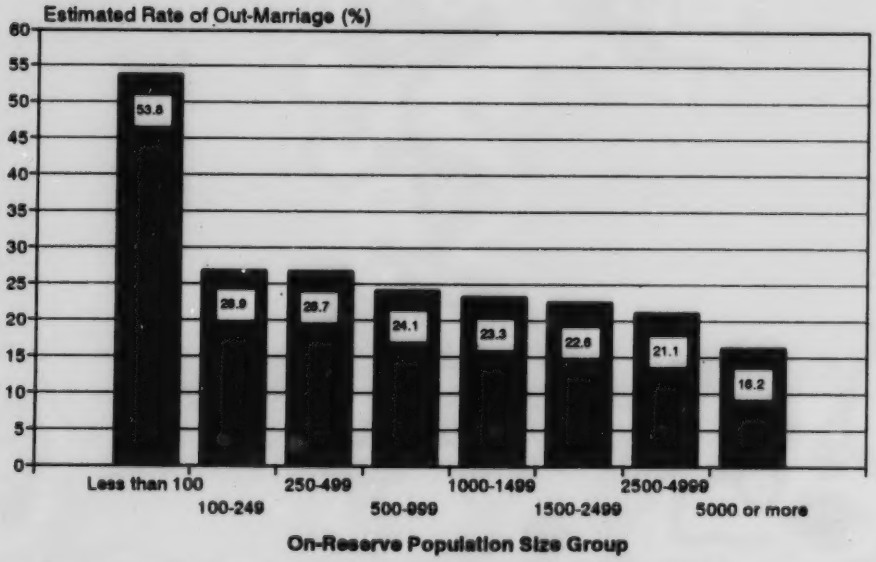
Distribution of First Nations by Rate of Out-Marriage and Location of Residence, Canada, 1995



Source: Estimated from data contained on the Indian Register, December 31, 1995

Figure 14

First Nations Showing Estimated Rate of Out-Marriage On Reserve by Population Size Group, Canada, 1995



Source: Estimated from data contained on the Indian Register, December 31, 1995

As noted previously, within the context of Bill C-31's revised inheritance rules (i.e. Section 6) out-marriage can over time contribute to declines in the size of the registered Indian populations of First Nations as some of the children who are born to a registered Indian parent will lack entitlement to Indian registration. This situation will arise over two successive generations of out-marriage. During the initial generation, the marriage of an individual registered under sub-section 6(1) and a non-Indian will produce children entitled to registration under sub-section 6(2). During the second generation, the out-marriage of the individual registered under sub-section 6(2) to a non-Indian will produce children who not entitled to registration. The timing and scale of the impacts of the new inheritance rules on loss of status entitlement depends largely upon two factors, the size of the population presently registered under sub-section 6(2) and the rate of out-marriage.

Although the population impacts of the inheritance rules will be most significant in the longer term, the short-term impacts of the rules are not inconsequential. A large number of individuals who gained status through Bill C-31 acquired status under sub-section 6(2). Out-marriages among this group are presently producing children who are not entitled to registration. Procedures developed by Clatworthy and Smith (1992) allow for estimation of the size of the 'non-entitled' population. Between the time of adoption of the amended Act and December 31, 1995, 13,366 children born to registered Indian parents are estimated to be ineligible for registration. These children include an estimated 1,031 children born to registered Indians on reserve and 12,336 children born to registered Indians off reserve.

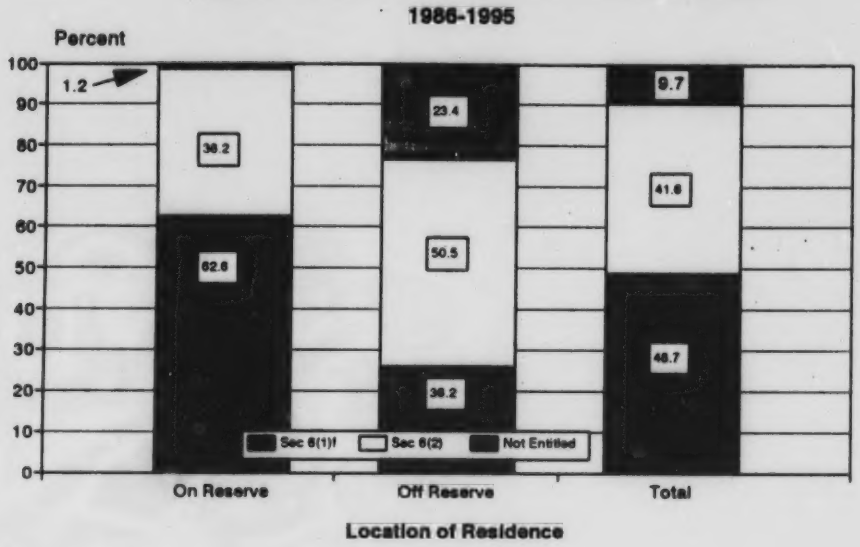
Figure 15 illustrates the estimated distribution by Section 6 entitlement status of children born to registered Indians since adoption of Bill C-31 and December 31, 1995. Nationally, roughly 49 percent of all children are estimated to have entitlement under sub-section 6(1), while 42 percent are estimated to have entitlement under sub-section 6(2). Nearly 10 percent of all children born to registered Indians during this period are estimated to lack entitlement.

The context differs quite dramatically among children residing on and off reserve. On reserve, a sizable majority of the children (about 62 percent) born since Bill C-31 are estimated to have entitlement under sub-section 6(1). On-reserve children entitled under sub-section 6(2) formed about 36 percent of this age cohort, while children lacking entitlement represented just 1.2 percent of the cohort. Off reserve, children entitled under sub-section 6(2) formed the largest group (51 percent), while children entitled under sub-section 6(1) accounted for about 36 percent. Roughly 23 percent of all off-reserve children born to registered Indians during the period was estimated to lack entitlement.

Additional information concerning the incidence of 'non-entitled' children is provided in Figure 16, which presents the distribution of on-and off-reserve First Nations populations by children born without entitlement as a proportion all children born during the 1991-1995 period. As shown in the figure, only a small portion of the

Figure 15

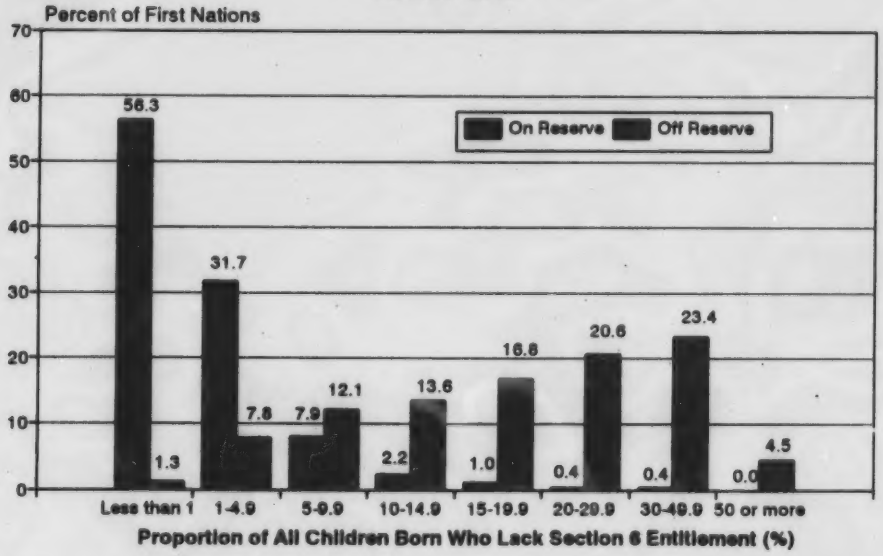
Children Born to Registered Indians Showing Distribution by Entitlement Status and Location of Residence, Canada, 1986-1995



Source: Derived from data contained on the Indian Register, as of December 31, 1995

Figure 16

Distribution of First Nations Showing Children Born Without Section 6 Entitlement as a Proportion of All Children Born to Registered Indians, Canada, 1995



Source: Estimated from data contained on the Indian Register, December 31, 1995

491 on-reserve First Nations communities (for which sufficient data were available) were estimated to have significant concentrations of children who were born without entitlement. Children born without entitlement were estimated to account for less than 5 percent of all children born on reserve during the 1991-1995 period in 87 percent of First Nations. First Nations where 'non-entitled' children formed 10 or more percent of all children born on reserve accounted for only 4 percent of all First Nations.

Within the off-reserve context, non-entitled off-spring formed a significant minority of children born to registered Indians during the period. Non-entitled children accounted for 10 or more percent of all children born to nearly 80 percent of the 398 off-reserve First Nations populations for which data permitted estimates. Among nearly 28 percent of off-reserve First Nations populations, non-entitled children formed at least 30 percent of the children born during the period.

2.4 Bill C-31's Band Membership Provisions

As noted previously in this sub-section of the report, Bill C-31 also contained provisions for individual First Nations to establish their own rules governing eligibility for band membership. Band membership implies political rights: specifically the rights to vote in elections and to run for Council. In many First Nations, however, band membership may also be a requirement for eligibility for band-administered programs and services (e.g. housing or social assistance). For First Nations where band membership rules differ from the rules governing entitlement to Indian registration, the band member population can be expected to differ from the registered Indian population. As noted by Smith and Clatworthy (1992), this situation has the potential to create *classes* of citizens within individual First Nations populations who have unequal rights and entitlements. This inequality may lead to growing tensions and conflicts within First Nations communities.

As of May 1992, 236 (or roughly 40 percent of all) First Nations had adopted rules or codes governing membership. For the remaining First Nations, eligibility for membership continued to be defined by the provisions governing eligibility for Indian registration (as set forth in the 1985 Indian Act). In their review, Clatworthy and Smith (1992) identify four main types of membership codes, including:

- **two parent rules** where a person's eligibility for membership requires that both of that person's parents be members (or eligible for membership);

- **blood quantum rules** where a person's eligibility for membership is determined on the basis of the "amount of Indian blood" that the person possesses. Most frequently, blood quantums of 50 percent or more are required for eligibility;

- **Indian Act rules** where a person's eligibility for membership is determined on the basis of rules governing entitlement to Indian registration as set forth in Section 6 of the 1985 Indian Act; and

- **one parent rules** where a person's eligibility requires that only one of the person's parents be a member (or entitled to membership).

Table 3 identifies the distribution of First Nations by main type of membership code.[1] As revealed in the table, membership eligibility for the majority (about 69 percent) of First Nations is governed by the rules for Indian registration under the 1985 Indian Act. As of May 1992, these First Nations accounted for about 70 percent of the Canada's registered Indian population. Eligibility for membership in 90 First Nations, representing about 15 percent of the total, is governed by one parent rules. In 1992, these First Nations contained about 13 percent of the national registered Indian population. Membership eligibility in 67 (or about 11 percent of) First Nations is based on two parent rules. First Nations with two parent membership rules accounted for about 9 percent of the registered Indian population in 1992. Thirty First Nations (about 5 percent of the total) apply various forms of blood quantum rules for determining membership eligibility. About 8 percent of the national Indian population was registered to these First Nations in 1992.

Table 3 also reveals considerable provincial/regional variations in the types of rules governing membership eligibility. Although membership eligibility according to "Indian Act" rules applies to a majority of First Nations in all provinces/regions, significant minorities of First Nations in all provinces/regions except Quebec have elected to employ alternative rules. Membership rules which differ from those of the Indian Act are especially common among First Nations in Alberta and Saskatchewan.

Each of the main types of membership rules contain provisions based on descent. The effects of the rules on the population eligible for membership in the future will depend upon marriage patterns. For example, under a two parent rule, all of the descendants from a marriage involving a member and non-member *will not* be eligible for band membership. On the other hand, under a one parent rule, all of the descendants of the initial member population will be eligible for membership.

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1. Readers should note that data presented in this report relate only to the main features of the membership codes adopted by First Nations. A large proportion of the codes adopted contain additional (and sometimes unique) provisions which may have significant implications for membership eligibility. Smith (1992) has analyzed many of these provisions and identified additional sub-groups of codes within each of the main code types. There is also considerable variability among individual membership codes with respect how the initial member population is defined. Many codes contained provisions which effectively excluded some portion of the registered Indian population from membership at the time of adoption.

Table 3

Distribution of First Nations Membership Codes by Type, Canada, Provinces/Regions, 1992

Province/Region	Type of Membership Code				
	Two Parent	Blood Quantum	Indian Act[1]	Unlimited One Parent	Total
Atlantic Region	6	0	21	4	31
%	19.4	0.0	67.7	12.9	100.0
Quebec	0	0	36	4	40
%	0.0	0.0	90.0	10.0	100.0
Ontario	11	14	82	19	126
%	8.7	11.1	65.1	15.1	100.0
Manitoba	0	2	50	8	60
%	0.0	3.3	83.3	13.3	100.0
Saskatchewan	24	1	38	5	68
%	35.3	1.5	55.9	7.4	100.0
Alberta	3	6	23	10	42
%	7.1	14.3	54.8	23.8	100.0
British Columbia	23	3	135	34	195
%	11.8	1.5	69.2	17.4	100.0
Northern Canada	0	4	24	6	34
%	0.0	11.8	70.6	17.6	100.0
Canada	**67**	**30**	**409**	**90**	**596**
%	11.2	5.0	68.6	15.1	100.0

Source: Adapted from Smith (1992).

[1] Indian Act rules category includes 360 First Nations that did not adopt their own membership rules and 49 First Nations that adopted one parent rules with a provision that members also be eligible for Indian registration. These rules are structurally similar to those of the Indian Act.

2.5 Migration

Research into the migration patterns of registered Indians has tended to focus on the geographical redistribution of this population within Canada. Although we are unaware of any prior research documenting the net international migration of Canada's registered Indian population, the volume of in-migrants from outside of Canada has been identified to be quite small. This situation has led most observers to conclude that international movement of registered Indians does not represent an important demographic process. As such, the population impacts of migration relate largely to redistribution of the registered Indian among provinces/regions and between locations on and off reserve.

Studies of the inter-provincial/regional migration of Canada's registered Indian population have been completed for most five year periods spanning the 1976-1991 period. Figure 17 presents data on provincial/regional net migration volumes of registered Indians from the 1981 Census and 1991 Aboriginal Peoples Survey. Although differences between the two data sources do not allow for definitive inferences concerning changes in migration volumes, the data are appropriate for illustrating the geographical patterns of migration for the 1976-1981 and 1986-1991 periods. The data suggest that although net migration volumes for individual provinces/regions differ for the two time periods, in general the geographic patterns of migration are quite similar. Alberta and British Columbia reported registered Indian population gains in both time periods, while the Atlantic region, Quebec and Manitoba reported net losses in both time periods. Reversals of net migration occurred in Ontario and Saskatchewan. These provinces both reported net losses during the 1976-81 period but net gains during the 1986-91 period. Northern Canada recorded a small gain in the earlier period but a loss during the later period.[1]

The data also suggest that migration during these two time periods did not contribute to significant changes in the provincial/regional distributions of the registered Indian population. Net changes during the 1976-1981 period totaled only 3,740 individuals, which represented about 1.3 percent of the 1981 registered Indian population aged 5 or more years, as measured by the Census. Net changes during the 1986-1991 period totaled 3,305 individuals or roughly 0.9 percent of the 1991 population aged 5 or more years, as measured by the APS.

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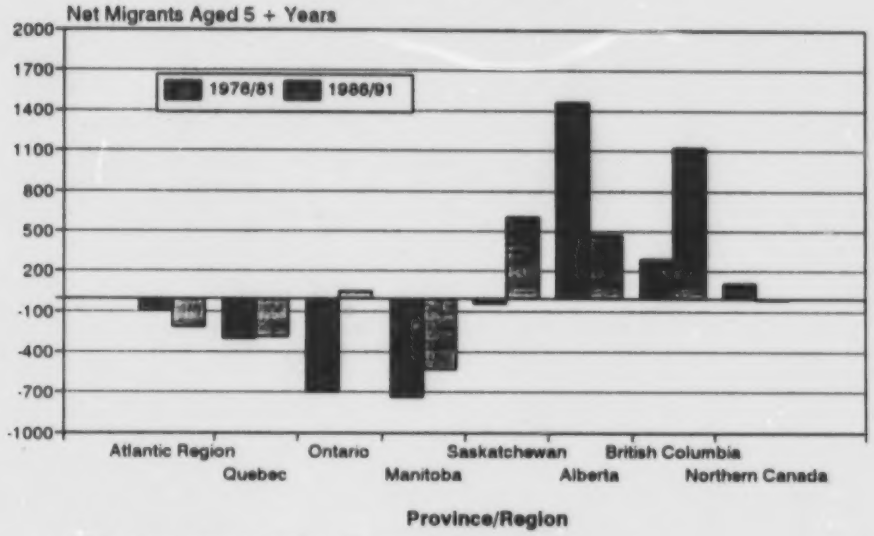
1. In both of these time periods, the general pattern of registered Indian, inter-provincial migration was similar to that reported for the general Canadian population, a finding which suggests that provincial/regional economic factors may also play a central role in the inter-provincial movement of registered Indians. Migration volumes in both time periods, however, were significantly lower among registered Indians.

Figure 17

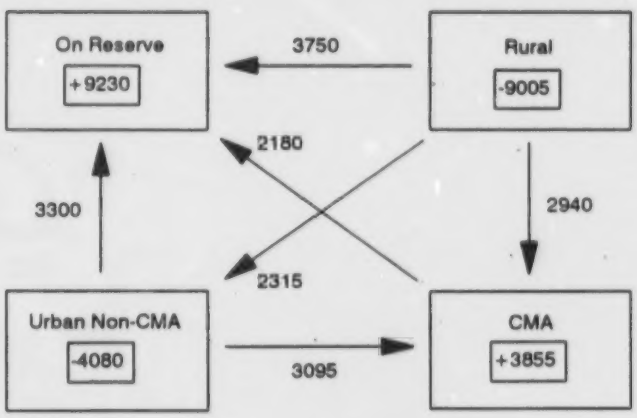
Estimated Net Migration Among Registered Indians by Province/Region Canada, 1976/81 and 1986/91



Source: Custom tabulations from the 1981 Census of Canada.
Custom tabulations from the Aboroginal Peoples Survey, 1991

Figure 18

Summary of Net Migration Flows Between On and Off Reserve Locations During the 1986-1991 Period, Registered Indian Population Aged 5+ Years, Canada, 1991



Boxed numbers refer to net migrants.

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey
Excludes 1790 in-migrants from non-enumerated Indian reserves and 1315 in-migrants from outside of Canada.

Several studies have noted that movement between on- and off-reserve locations represents a more significant dimension of registered Indian migration. In this regard, data from the Aboriginal Peoples Survey, analyzed recently by Clatworthy (1995) revealed that during the 1986-1991, 19,060 registered Indians moved between on- and off-reserve locations. An additional 39,105 registered Indians moved between rural, small urban and large urban areas off-reserve. Figure 18 illustrates the net effects of migration for reserves and various off-reserve locations. The figure reveals that reserves experienced a net gain of 9,230 registered Indians during the 1986-1991 period through migration. Reserves gained population from off-reserve rural areas, as well as, from small and large urban centres. The positive net migration of registered Indians to reserves during the 1986-91 period appears to represent the continuation of a much longer-term trend. Although published data for the 1981-1986 period are lacking, data and analyses for the period spanning 1966-1981 also identified net in-flows to Indian reserves (Norris [1990] and Siggner [1992]).

The registered Indian population residing in large urban centres also experienced a net gain (of 3,855 individuals) through migration. This gain resulted from the movement of registered Indians from smaller urban areas and from rural areas. Small urban areas (-4,080 individuals) and rural areas (-9,005 individuals) reported population losses through migration during this time period.

The patterns of movement among on- and off-reserves locations identified for the 1986-1991 period are generally similar to those identified for several earlier time periods. Reserves and large urban areas continued to experience positive net migration while rural areas and smaller urban centres reported net out-flows of registered Indians.

Both prior to and after the adoption of Bill C-31, concerns were raised by several First Nations leaders about the pressures for return migration to reserve communities among individuals who gained or regained status through Bill C-31 (Indian Affairs and Northern Development, 1990). Data collected by the Aboriginal Peoples Survey and analyzed by Clatworthy examined the migration patterns of the Bill C-31 population during the 1986-1991 period and the migration of this population group between on- and off-reserve locations (Table 4). Estimates from the APS data reveal that during the period, reserves experienced a net gain of about 2,000 individuals who reported registration under Bill C-31. This represents about 20 percent of the net gain in registered Indian population reported by reserves (i.e. about 9,230 individuals) for the period. The APS data also reveal that C-31 net migrants to reserves represented less than 10 percent of the Bill C-31 population residing on reserve in 1991. This situation suggests that the vast majority of on-reserve Bill C-31 registrants resided on reserve prior to gaining status under Bill C-31.

Table 4

Migration Flows Between On- and Off-Reserve Locations During the 1986-1991 Period Among "Bill C-31" Registrants, Canada, 1991

1986 Place of Residence	1991 Place of Residence			
	On Reserve[1]	Off Reserve	Total	Net-Migrants
On Reserve[1]	20760	895	21655	2005
Off Reserve	2900	62485	65385	-2005
Total	**23660**	**63380**	**87040**	---

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

[1] Excludes population residing on (and migrating from) non-enumerated Indian reserves.

Although potentially significant for individual First Nations communities, the net migration of Bill C-31 registrants to reserves reported at the national level, does not, in general, appear to have occurred at sufficient scale to cause significant demographic changes to the on-reserve population.

The contribution of Bill C-31 registrants to net migration to reserves was also found to vary widely by province/region. As indicated in Figure 19, in relation other provinces/regions, Bill C-31 registrants formed a relatively large component of net migrants to reserves in Ontario, Quebec, and British Columbia. Substantially lower levels of net migration to reserves among Bill C-31 registrants were reported in Saskatchewan and Alberta. In both of these provinces, the C-31 share of net migrants to reserves represented less than eight (8) percent of all net migrants.

The above data suggest that impacts related to the migration of Bill C-31 registrants to reserves may be most important to First Nations in the provinces of Ontario, Quebec and British Columbia. In all other provinces/regions and especially in Saskatchewan and Alberta, net migration of Bill C-31 registrants to reserves has occurred at much lower relative scales.

2.6 Household and Family Formation

In comparison with most other aspects of registered Indian demography, research concerning household and family formation remains poorly developed. Recent work by Nault and Chen (1993), provides estimates of household and family *headship rates* among registered Indians for the 1986 and 1991 time periods. In the case of households, the rate is estimated by dividing the number of household maintainers in a specific age group by the total population of that age group. Similarly, the family rate is estimated by dividing the number of family reference persons in a specific age group by the total population of that age group.[1] The rates can be interpreted as the probability that a registered Indian is a member of a discrete (or separate) household or a discrete family.

Table 5 presents the results of Nault and Chen's analysis for the 1981, 1986 and 1991 time periods. Within the context of both households and families, headship rates are considerably higher off reserve than on reserve. This situation appears to reflect two underlying factors including, smaller household and family sizes off

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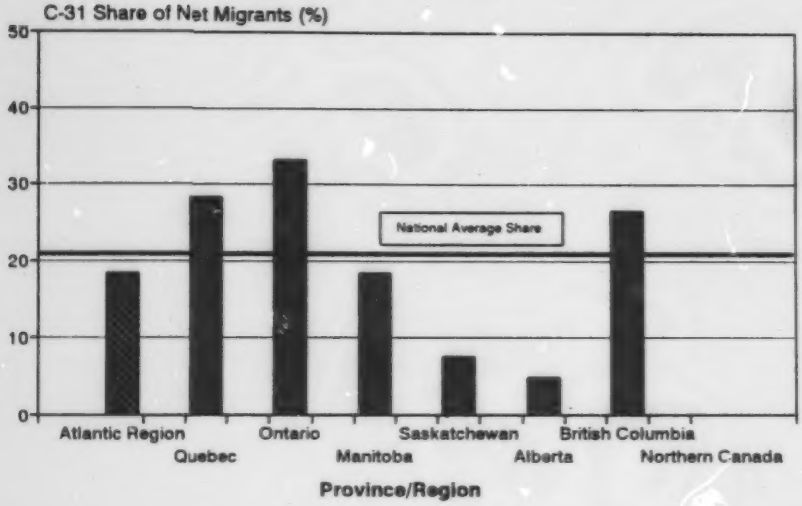
1. The concepts of household maintainer and family reference person are those of the Census of Canada. Household maintainer refers to the individual who is responsible for paying the rent, mortgage, property taxes and/or utilities on behalf of the household. The family reference person is the person responsible for these payments on behalf of a family. A family is defined as a married (or common-law) couple (with or without children) or a lone parent.

Figure 19

Bill C-31 Share of Net Migrants to Indian Reserves by Province/Region, Canada, 1986-1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Table 5

Estimated Household and Family Headship Rates Among Registered Indians by Age Group and Location of Residence, Canada, 1981, 1986 and 1991

Age and Household Type	On-Reserve			Off-Reserve		
	1981	1986	1991	1981	1986	1991
Households						
15-29 Years	0.1669	0.1664	0.1809	0.3229	0.3514	0.3631
30-44 Years	0.5014	0.5176	0.5211	0.7706	0.7924	0.7361
45-64 Years	0.5923	0.5999	0.6053	0.8577	0.8915	0.8600
65 + Years	0.6615	0.6615	0.6742	0.7869	0.8107	0.8541
Families						
15-29 Years	0.1694	0.1760	0.1867	0.2683	0.2992	0.3060
30-44 Years	0.4845	0.4810	0.4774	0.6689	0.6837	0.6606
45-64 Years	0.4993	0.4910	0.4851	0.6762	0.6501	0.6591
65 + Years	0.4082	0.4266	0.4029	0.4430	0.4521	0.4730

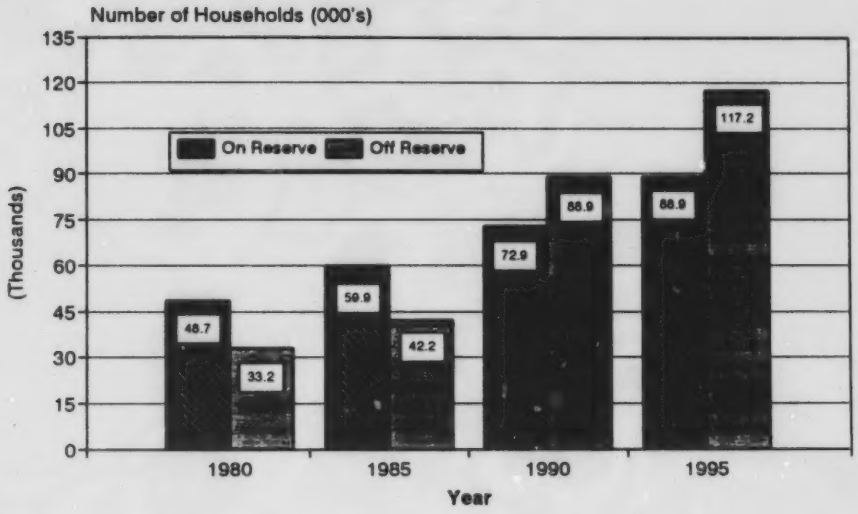
Source: Nault and Chen, 1993

reserve and the greater prevalence off reserve, of inter-marriages (i.e. families or households comprising Indian and non-Indian members). The table also reveals that with the exception of the 15-29 year age cohort and the 65+ year age cohort residing off reserve, there is no clear pattern of change in registered Indian household or family headship rates over time. Rates among the 15-29 age cohort (both on and off reserve) and the 65+ age cohort residing off reserve appear to have increased over the period, but by a relatively small amount. For the remaining population groups, headship rates appear to have remained relatively stable during the period.

The headship rates reported by Nault and Chen can be used in conjunction with registered Indian population counts to derive estimates of the number of registered Indian households and families. Figure 20 presents estimates of the total number of registered Indian households residing on and off reserve for five year intervals spanning the 1980-1995 period. During this period, the estimated number of registered Indian households residing on reserve increased from about 48,700 to about 88,900 (representing an increase of about 83 percent over the period). Registered Indian households residing off reserve are estimated to have increased from roughly 33,200 in 1980 to about 117,200 in 1995 (an increase of about 253 percent over the period). As illustrated in Figure 21, which presents the average annual rate of growth of registered Indian households, much of the large increase in registered Indian households residing off reserve occurred during the 1985-1990 period when large numbers of individuals received registered Indian status under the re-instatement and registration provisions of the 1985 amendments to the Indian Act. It is also worth noting, however, that rates of household growth off reserve exceeded those on reserve throughout the 1980-1995 time period. Higher rates of household growth off reserve are due to several factors including higher numbers of C-31 restorations, higher rates of out-marriage and greater access to housing opportunities (i.e. a greater ability of the off-reserve population to acquire a separate dwelling unit).

Figure 20

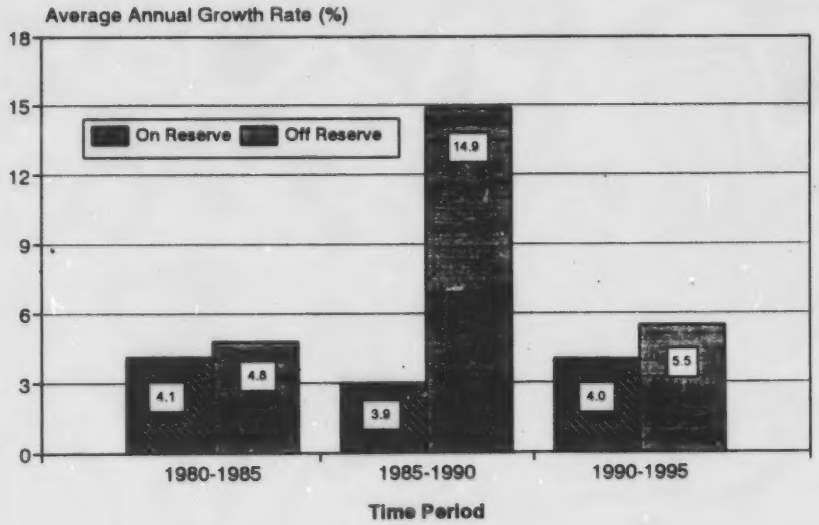
Estimated Number of Registered Indian Households Residing On and Off Reserve, Canada, 1980-1995



Source: Adapted from Nault and Chen (1992).

Figure 21

Estimated Annual Rate of Growth of Registered Indian Households Residing On and Off Reserve, Canada, 1980-1995

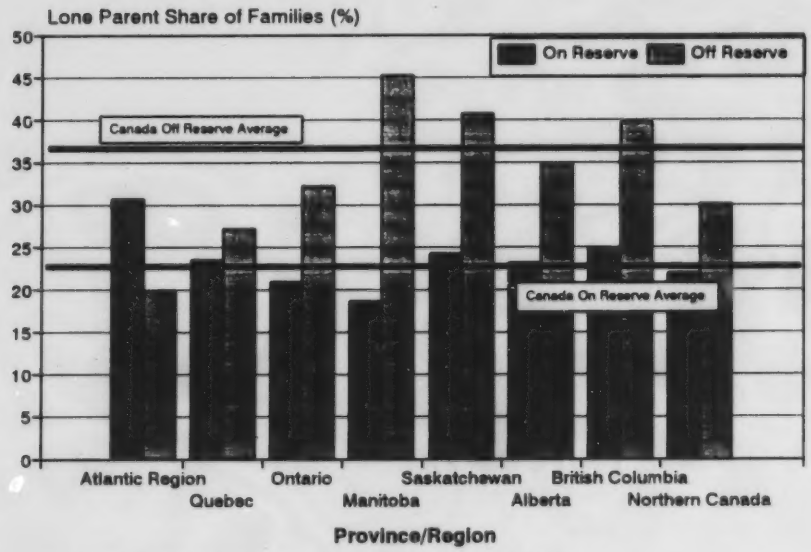


Source: Adapted from Nault and Chen (1992).

In addition to differential rates of household growth, data from the 1981 Census and 1991 Aboriginal Peoples Survey suggest that household composition patterns differ between the on- and off-reserve populations. In relation to the off-reserve context, two parent families and multiple family households account for a larger share of households on reserve in both time periods. Families headed by a lone parent were much more common among registered Indian families off reserve than on reserve. Higher concentrations of lone parent families off reserve existed in all provinces/regions with the exception of the Atlantic region. Lone parent families were especially common among off reserve families in the provinces of Manitoba, Saskatchewan and British Columbia (Figure 22).[1]

Figure 22

Estimated Share of On- and Off-Reserve Registered Indian Families Headed by a Lone Parent, by Province/Region, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

1. Differences between the 1981 Census and 1991 Aboriginal Peoples Survey data available to this study exist with respect to the concepts and methods used to identify and define registered Indian households. As such we have not discussed changes over time in household composition patterns. Although the data suggest that some changes may have occurred (e.g. an increase in the prevelance of lone parent families off reserve), this may result from the differences in properties of the two data sources.

3.0 Projections of Recent Trends in First Nations Demography

This section of the report examines how selected aspects of First Nations demography are expected to change in the short and medium term futures. Information presented in this section derive largely from population and household projections prepared recently by Nault et al (1993) and Nault and Chen (1993), respectively. The aspects of First Nations demography presented in this section of the report include population growth, population distribution by province/region and on/off reserve, population age structure, gender ratios, Bill C-31 registrations, Section 6 entitlement status, eligibility for band membership, and the number and distribution of households.

3.1 Population Size and Growth

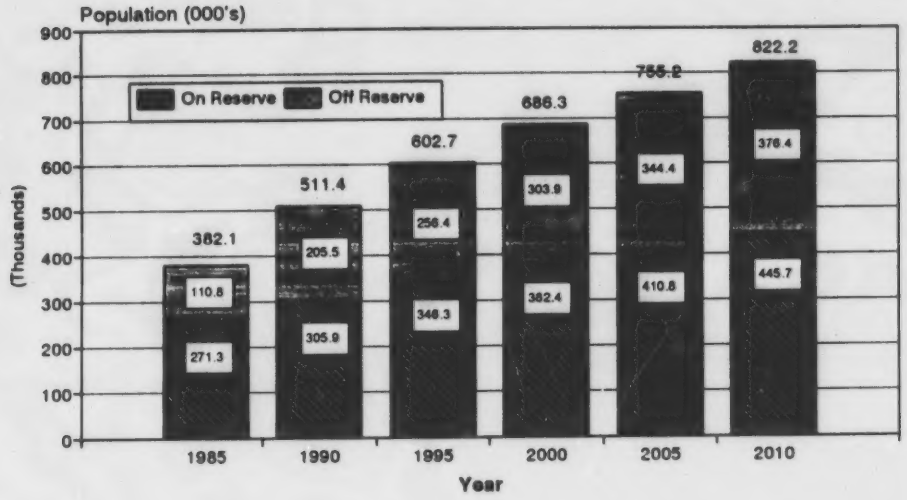
As noted in the previous section of this report, several demographic processes are expected to continue to contribute to growth in the size of the registered Indian population. Figure 23 presents estimates (adjusted for late reporting of births and deaths) of the on-, off-, and total registered Indian population for selected time periods spanning 1985-2010. These estimates are derived from research and population projections prepared by Nault et al (1993). As indicated in the figure, the registered Indian population increased from approximately 382,100 in 1985 to about 602,700 in 1995. Much of the estimated growth in the population during this period occurred off reserve and was associated with the re-instatement and registration of large numbers of individuals under Bill C-31. Between 1986 and 1995, the population residing off reserve increased by about 131 percent (from 110,800 to 256,400) while the population residing on reserve increased by about 28 percent (from 271,300 to 346,300).

According to projections prepared by Nault et al (1993), the registered Indian population is expected to increase to 686,300 individuals (or by about 14 percent) during the 1995-2000 time period. By the year 2010, the population is expected to further increase to about 822,200 individuals, a level roughly 36 percent higher than that reported for 1995.

As illustrated in Figure 24, the rate of population growth is expected to decline over the course of the 1995-2010 period. On reserve, the annual rate of growth is expected to decline from the recent (1991-1995) level of about 2.5 percent annually to about 1.6 percent annually during the 2006-2010 period. Annual rates of population growth off reserve are expected to fall to about 1.8 percent annually during the 2006-2010 period from the recent level of about 4.4 percent annually.

Figure 23

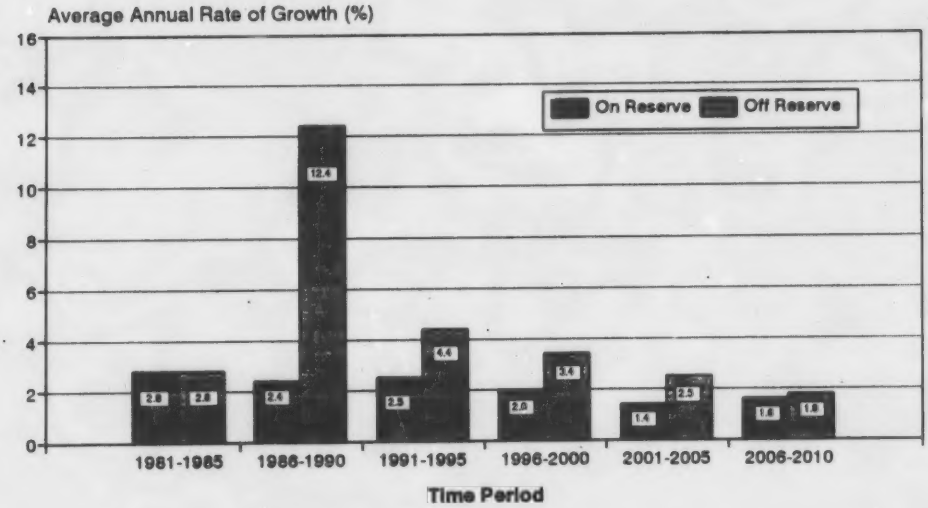
Estimated Registered Indian Population by Location of Residence, Canada, 1986-2010 (Projected)



Source: Estimates derived from Nault et al (1993).
Population estimates adjusted for late reporting.

Figure 24

Estimated Average Annual Growth Rate of Registered Indian Population Residing On and Off Reserve, Canada, 1980 - 2010



Source: Derived from population projections prepared by Nault et al (1993), medium growth scenario.
Data adjusted for late reporting.

The higher rates of growth which are projected for the off-reserve population result in large part from the expectation of sizable numbers of future registrations under Bill C-31.[1]

Higher growth rates among the off-reserve population are expected to result in further declines in the share or proportion of the population residing on reserve. In 1986, reserves accounted for an estimated 71 percent of the total registered Indian population. By 1995, the on-reserve share of the population was estimated to have fallen to about 58 percent. A gradual decline in the on-reserve share of the population to about 54 percent is expected to occur by the year 2010 (see Figure 25). These declines in the on-reserve population share are expected to result primarily from future C-31 registrations, a sizable majority of which are expected to accrue to the off-reserve population.

3.2 Provincial/Regional Growth

Figure 26 identifies the estimated registered Indian population residing on and off reserve by province/region in 1995. At that time, Ontario reported the largest registered Indian population (139,300) followed by British Columbia (100,400), Saskatchewan (93,600), Manitoba (90,200), Alberta (74,300), Quebec (59,300), the Atlantic region (24,000) and Northern Canada (21,600).

As illustrated in Figure 27, a sizable majority (more than 60 percent) of the registered Indian population resided on reserve in most provinces/regions. In relation to other provinces/regions, residency on reserve was least common among registered Indians in British Columbia (50.2 percent), Ontario (51.0 percent) and Saskatchewan (52.1 percent).

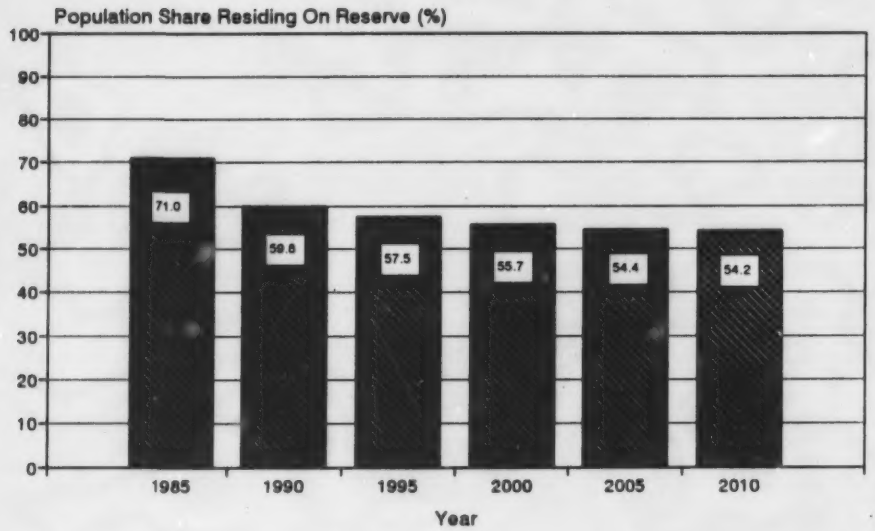
Growth in the size of the registered Indian population is expected to vary widely by province/region and by on/off reserve location. Figure 28, which identifies the expected average annual rate of registered Indian population growth on and off reserve, reveals that higher rates of growth are expected off reserve in all provinces/regions during the 1995-2010 period. During this period, the annual rate of population growth among the off-reserve registered Indian population is expected to be highest in Manitoba, Quebec, Northern Canada, and Saskatchewan. Ontario and British Columbia are expected to experience the lowest rates of growth in the registered Indian population residing off reserve.

---

1. Under the revised rules of the Indian Act, out-marriage may also contribute to population growth in the short and medium term. Although this dimension of potential growth is not considered in the Nault et al projections, high rates of out-marriage among off reserve populations could result in higher rates of growth off reserve than projected by Nault et al.

Figure 25

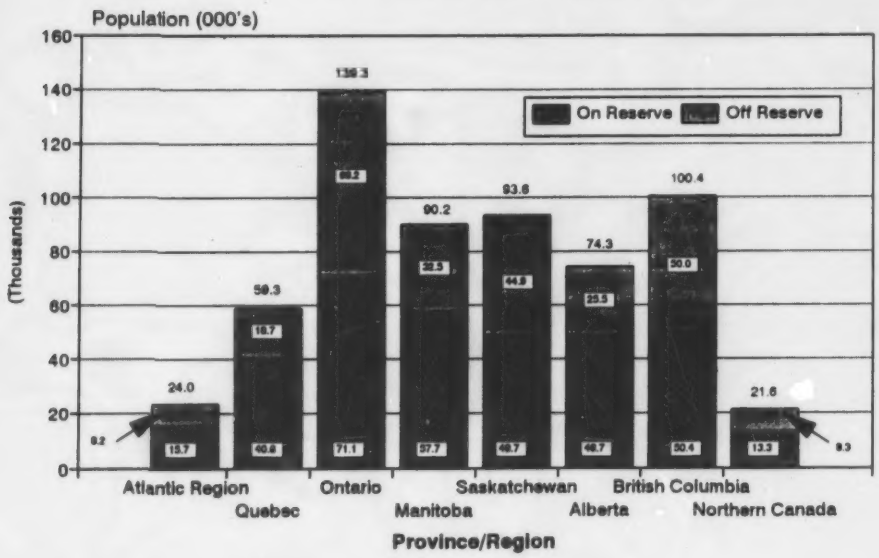
Estimated Share of Registered Indian Population Residing On Reserve, Canada, 1985-2010



Source: Nault et al (1993), medium growth scenario, adjusted for late reporting

Figure 26

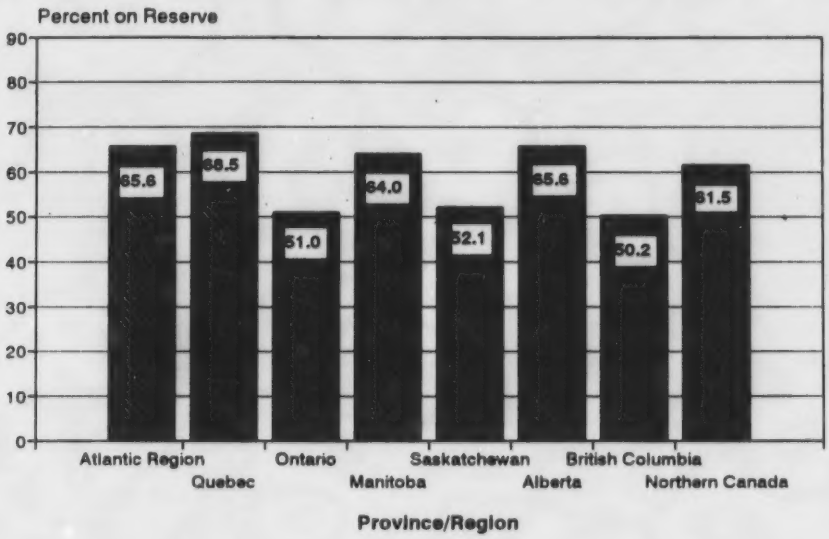
Estimated Registered Indian Population Residing On and Off Reserve, by Province/Region, Canada, 1995



Source: Nault et al (1993) population projections, medium growth scenario

Figure 27

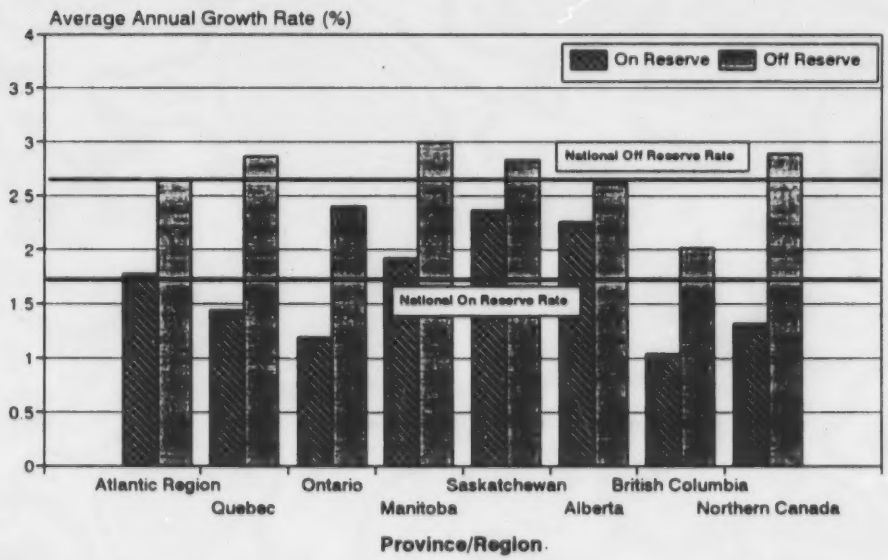
Estimated Share of Registered Indian Population Residing On Reserve, by Province/Region, Canada, 1995



Source: Nault et al (1993) population projections, medium growth scenario

Figure 28

Average Annual Rate of Registered Indian Population Growth On and Off Reserve by Province/Region, Canada, 1995-2010



Source: Adapted from Nault et al (1993), medium growth scenario.

In relation to other provinces/regions, rates of growth during the 1995-2010 period among the registered Indian population residing on reserve are expected to be highest in the prairie provinces and Atlantic region. In these areas, the annual rate of on-reserve population growth is expected to exceed the national on-reserve average rate. Growth rates among the on-reserve population are expected to be lowest in British Columbia and Ontario.

Figures 29 and 30 identify the provincial/regional distribution of registered Indian population growth on and off reserve, respectively, that is expected to occur during the 1995-2010 period. Population increases on reserve are expected to be largest in Saskatchewan (20,732), Alberta (19,618) and Manitoba (19,259). Collectively, about 60 percent of the growth in the on-reserve registered population during the 1995-2010 period is forecast to occur in these three provinces.

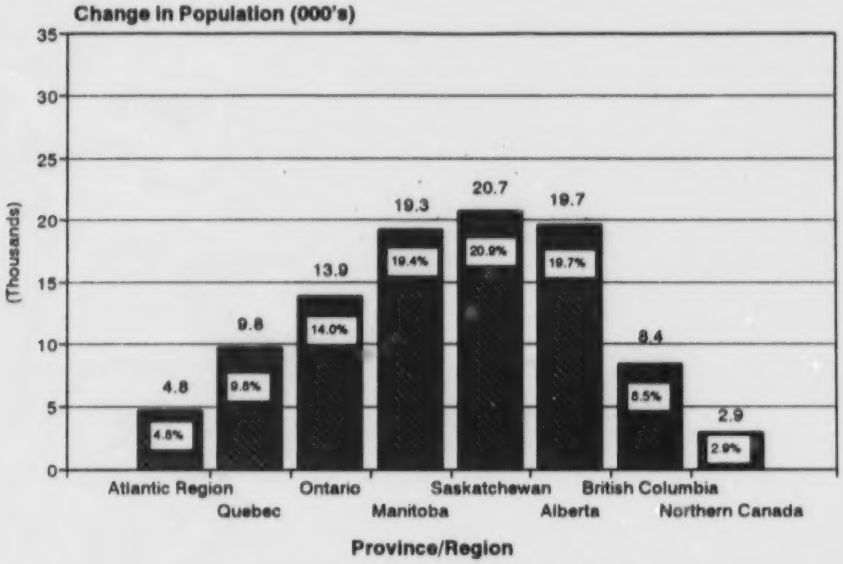
Four provinces, including Ontario (29,524), Saskatchewan (23,747), Manitoba (18,404) and British Columbia (17,665) are expected to account for much (collectively about 75 percent) of the forecast growth of the registered Indian population residing off reserve during the 1995-2010 period.

Differential population growth rates among provinces/regions are expected to result in some significant changes in the provincial/regional distribution of the registered Indian population. During the 1995-2010 period, the share of the national on reserve registered Indian population is expected to increase in Manitoba, Saskatchewan and Alberta and decline in Ontario, British Columbia and Quebec. No significant changes in the share of the national on-reserve population are expected in the Atlantic region and Northern Canada.

Changes in the provincial/regional distribution of the off-reserve population during the 1995-2010 period are expected to be of smaller magnitude to those forecast for the on-reserve population. The shares of the off-reserve population residing in Ontario and British Columbia are expected to decline during this period, while those of Saskatchewan, Manitoba and Quebec are expected to increase. The share of the off-reserve population residing in other provinces/regions is expected to remain relatively unchanged during the period.

Figure 29

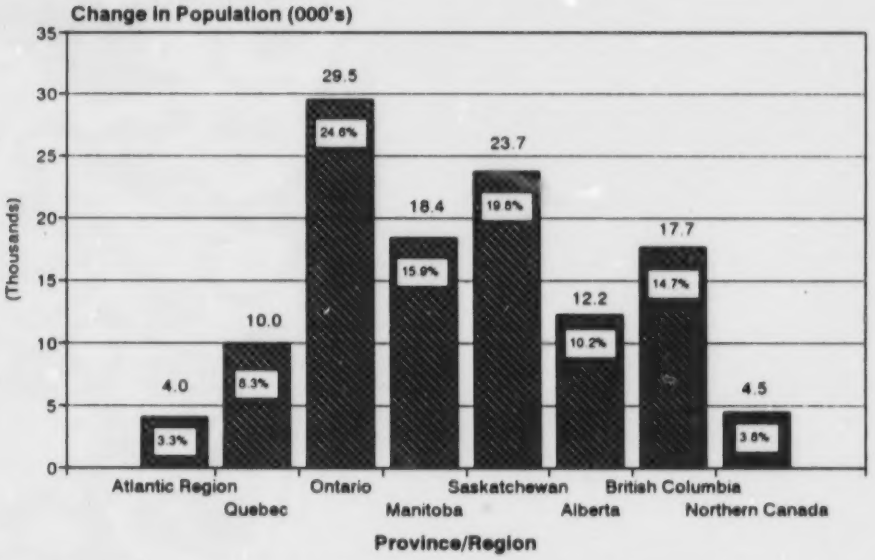
Distribution of Growth in On-Reserve Registered Indian Population by Province/Region, Canada, 1995 to 2010



Figures in boxes refer to provincial/regional percentage of national on-reserve growth
Source: Adapted from Nault et al (1993), medium growth scenario.

Figure 30

Distribution of Growth in Off-Reserve Registered Indian Population by Province/Region, Canada, 1995 to 2010



Figures in boxes refer to provincial/regional percentage of national off-reserve growth
Source: Adapted from Nault et al (1993), medium growth scenario.

3.3 Age Structure

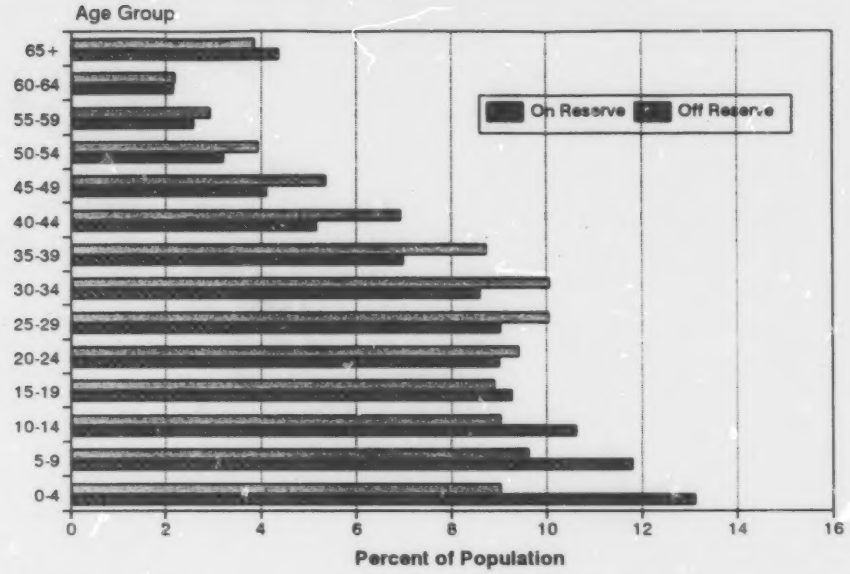
Figure 31 illustrates the age structure of the registered Indian population residing on and off reserve in 1995. At that time, the population residing on reserve was characterized by large concentrations of children (0-14 years) and youth (15-24 years). In general, younger age cohorts formed a larger segment of the on-reserve population. In relation to the on-reserve population, the off-reserve population contained smaller concentrations of cohorts under 20 years of age and larger concentrations of cohorts between 20 and 64 years of age. Relative to the general Canadian population, both the on- and off-reserve components of the registered Indian population display more youthful age profiles.

Largely in response to expected declines in fertility, both the on- and off-reserve registered Indian populations are expected to experience shifts toward older age cohorts during the 1995-2010 period. Figure 32 illustrates the expected growth in the size of various age cohorts within the registered Indian population residing on reserve during the period. As illustrated in the figure, growth in the on-reserve population is expected to be largest among cohorts between 40 and 54 years of age. Significant levels of growth, however, are also forecast to occur among youth (15-24 years) and among cohorts aged 35-39 years, 55-59 years and 65+ years. As shown in Figure 33, annual rates of growth among the on-reserve populations during the 1995-2010 period are expected to be highest among cohorts 40 or more years of age. Quite similar patterns of change in the age structure are expected for the population residing off reserve (see Figures 34 and 35).

In spite of higher rates of growth among older age cohorts, the on-reserve component of the registered Indian population is expected to retain a "youthful" character throughout the short and medium term. Figure 36, which compares the age structure of the on-reserve population in 1995 with that expected in 2010, reveals that although the share of the population accounted for by younger age cohorts is expected to decline, younger age cohorts will continue to form the largest segments of the population. Shifts of the population's age structure to older cohorts are expected to be equally significant off reserve (see Figure 37). By 2010, individual five year cohorts between 0 and 49 years of age are expected to account for roughly equal shares of the off-reserve population.

Figure 31

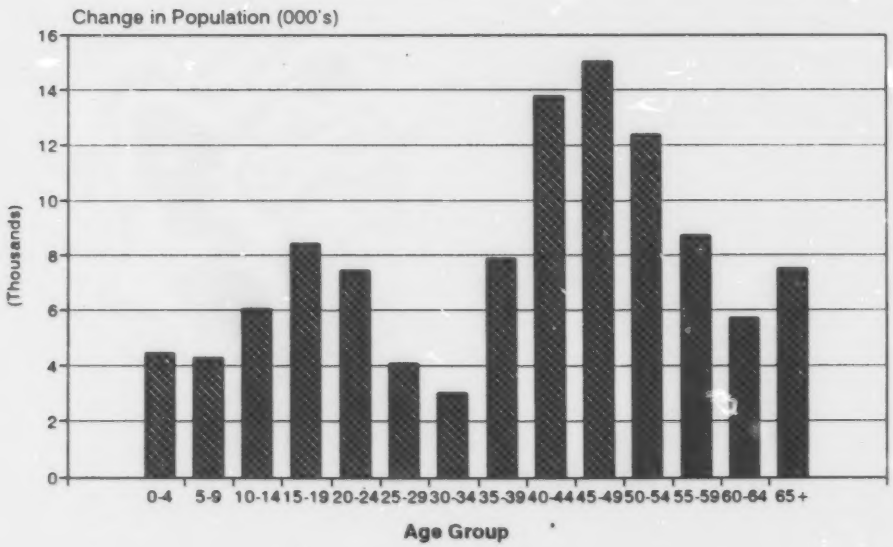
Estimated Registered Indian Population Residing On and Off Reserve Showing Distribution by Age Group, Canada, 1995



Source: Nault et al (1993) population projections (medium growth scenario)

Figure 32

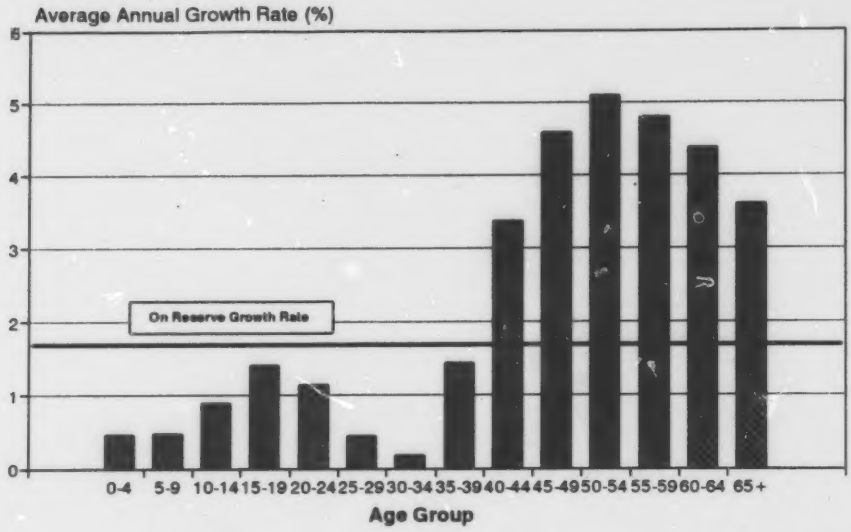
Estimated Change in the Size of the Registered Indian Population Residing On Reserve by Age Group, Canada, 1995 - 2010



Source: Nault et al (1993) population projections (medium growth scenario)

Figure 33

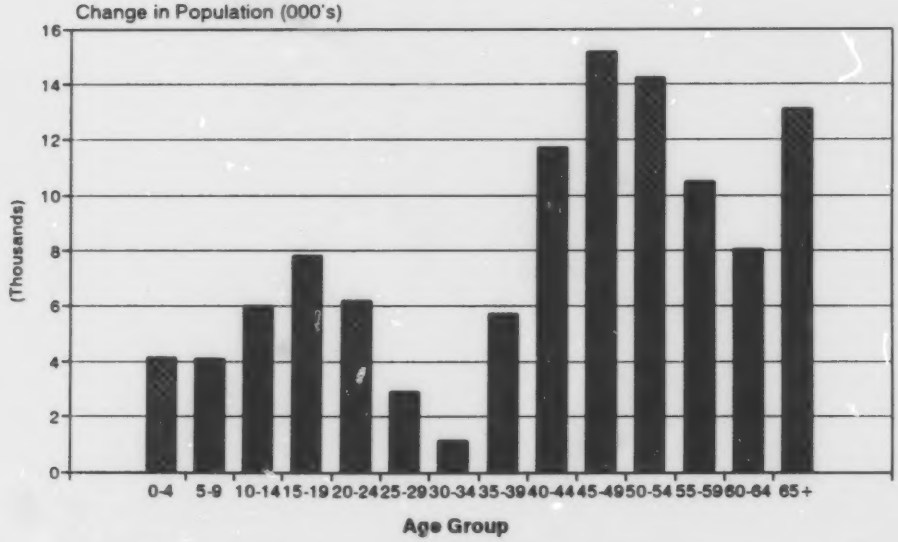
Estimated Average Annual Growth Rate of Registered Indian Population Residing On Reserve by Age Group, Canada, 1995 - 2010



Source: Nault et al (1993) population projections (medium growth scenario)

Figure 34

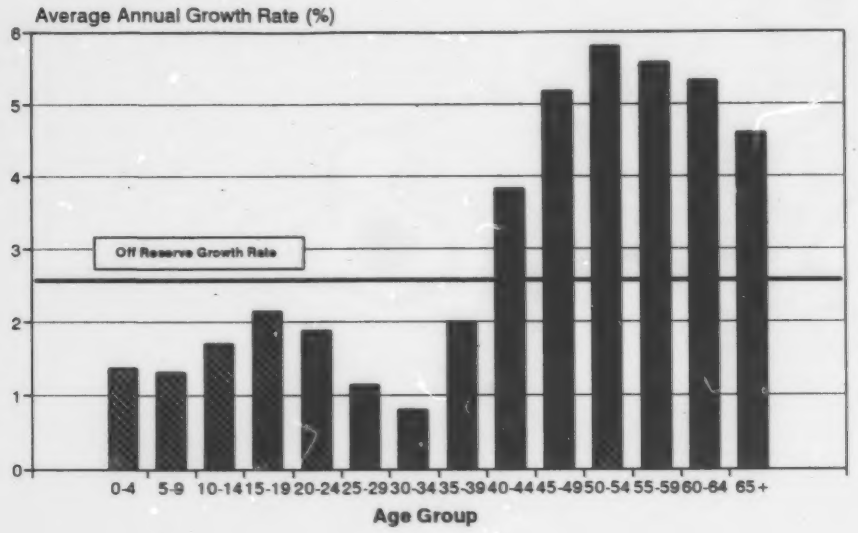
Estimated Change in the Size of the Registered Indian Population Residing Off Reserve by Age Group, Canada, 1995 - 2010



Source: Nault et al (1993) population projections (medium growth scenario)

Figure 35

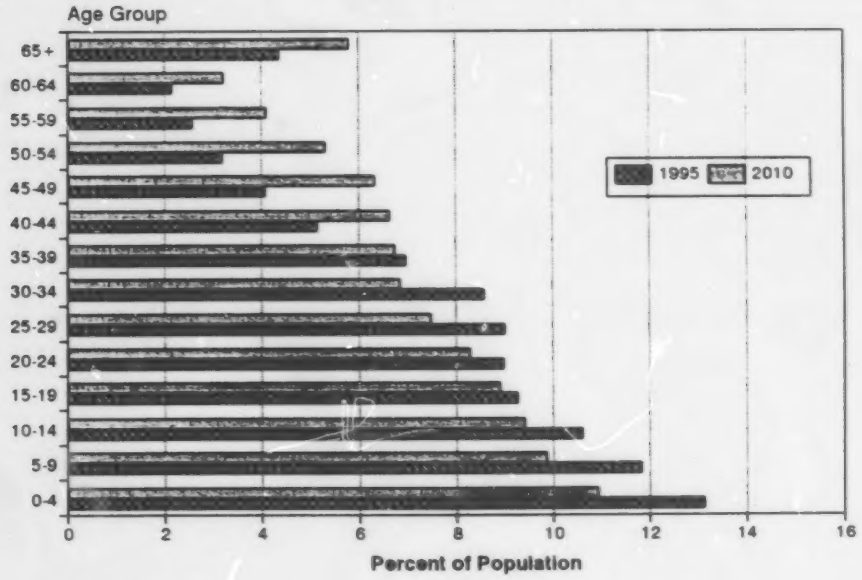
Estimated Average Annual Growth Rate of Registered Indian Population Residing Off Reserve by Age Group, Canada, 1995 - 2010



Source: Nault et al (1993) population projections (medium growth scenario)

Figure 36

Estimated Registered Indian Population Residing On Reserve Showing Distribution by Age Group, Canada, 1995 and 2010



Source: Nault et a. (1993) population projections (medium growth scenario)

3.4 Gender Composition

As noted previously, the restoration of registered Indian status to large numbers of individuals under Bill C-31 has contributed to shifts in the gender composition of the registered Indian population. In 1980, the ratio of males to females among the registered Indian population was roughly 1.02, indicating a larger concentration of males than females. By 1995, roughly 10 years after adoption of Bill C-31, the male to female ratio had declined to 0.96. The ratio is expected to remain at this level throughout the 1995-2010 period.

Earlier studies have noted differences in the gender composition of the registered Indian populations residing on and off reserve. Generally, males have been found to form a larger segment of the on-reserve population, while the reverse is true exists among the off-reserve population. Estimates prepared for 1995 by Nault et al (1993) reveal that with the exception of the 60+ age cohort, males outnumber females by a large margin among all age groups within the on-reserve population (see Figure 38). Off reserve, males outnumber females only among the population under 15 years of age. For all other age cohorts, and especially for older age cohorts, females are more common among the off-reserve population (Figure 39).

Differences in gender composition between on- and off-reserve locations result from several factors, including the longer life expectancy of females (which accounts for the females outnumbering males among older age cohorts), historic (pre Bill C-31) gender specific out-migration from reserves (which accounts for the high male to female ratios on reserve and the reverse situation off reserve) and the impacts of Bill C-31 which restored registered Indian status to large numbers of women (who had married non-Indians), a majority of whom reside off reserve.[1]

3.5 Bill C-31 Registrants

As noted in the previous section of this report, the historical pattern of re-instatements and registrations under Bill C-31 suggest that additional growth in the registered Indian population can be expected to occur in the future through this process. Formal projections of future C-31 registrations have been prepared by Nault et al (1993) to support projections of the registered Indian population. These projections which were based on data to 1990, suggested that a total of more than 147,000 individuals could eventually receive status under Bill C-31 by 2015.

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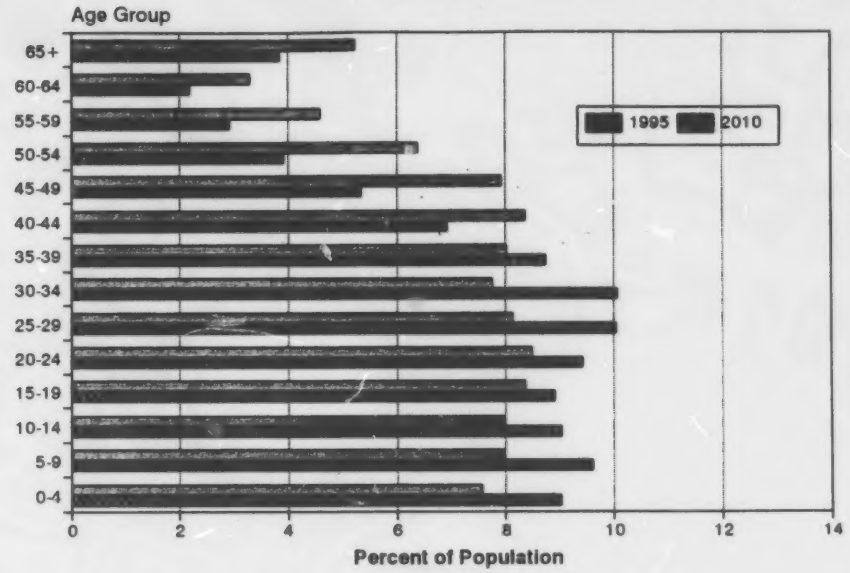
1. The contribution of gender-specific out-migration from reserves may relate to the pre Bill C-31 time period. APS data for the 1986-91 period show that although females were much more likely than males to move off reserve, females were also mor elikely than males to move to a reserve from an off-reserve location. The net effect of migration during the period was to slightly reduce the scale of the gender imbalance on reserves.

Figure 37

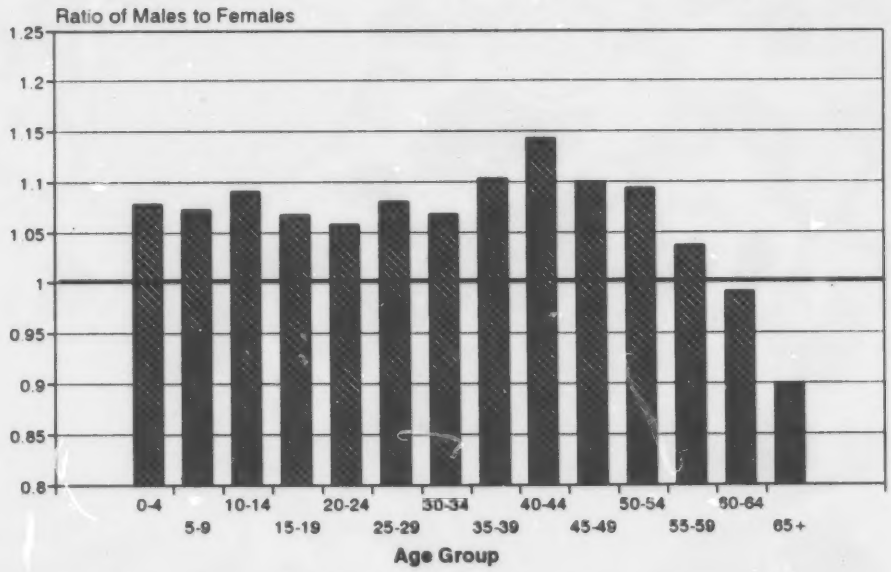
Estimated Registered Indian Population Residing Off Reserve Showing Distribution by Age Group, Canada, 1995 and 2010



Source: Nault et al (1993) population projections (medium growth scenario)

Figure 38

Registered Indian Population Residing On Reserve Showing Male to Female Ratio by Age Group, Canada, 1995



Source: Nault etl al (1993), population projections, medium growth scenario.

Comparison of the Nault et al projections of C-31 registrants with actuals to 1996 suggest that the projection model developed by Nault et al has overestimated (by about 5 percent) the number of registrations in the short term. For purposes of this study we have adjusted downward the estimates of future registrations prepared by Nault et al such that they reflect the actual number reported to December 1996.[1]

Our adjustments to the estimates prepared by Nault et al are presented in Figure 40, along with data on the cumulative number of actual registrations reported to December 31, 1996. The adjusted data suggest that by the year 2010, cumulative registrations under Bill C-31 will be roughly 133,000, or about 29,000 higher than the number of registrations reported as of 1996. Although further registrations are projected to occur beyond 2010, annual additions after that time are expected to be considerably below 1,000 individuals. Most of Bill C-31's impact with respect to increasing the size of Canada's registered Indian population is expected to realized by the year 2000 (although there are no time restrictions for status restoration under Bill C-31).

3.6 Population Entitled to Registration

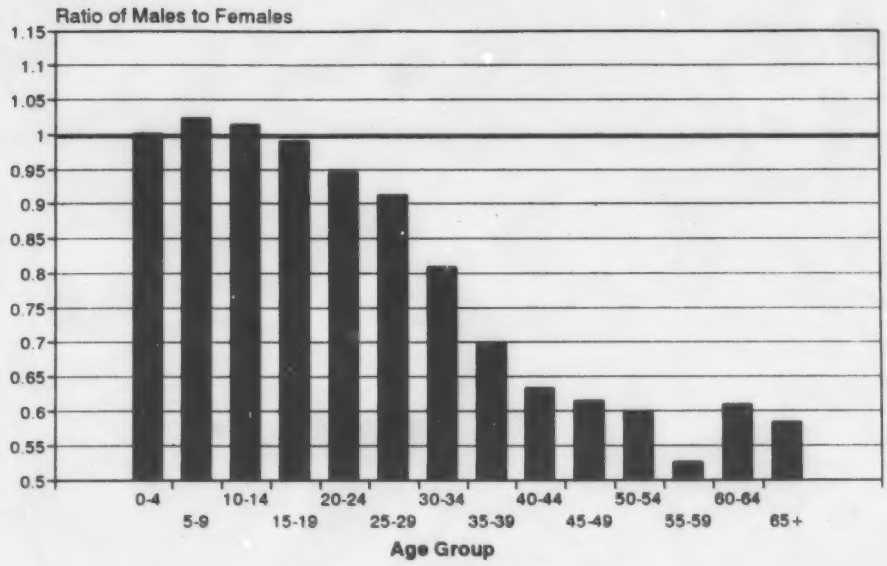
Although the population impacts of the inheritance rules of Bill C-31 are presently generally small, especially for on-reserve First Nations populations, projections of the longer-term population impacts, prepared by Clatworthy (1993), suggest that the impact of these rules will become much more significant over the next 10-15 years. Figure 41, which presents projections of the entitlement status of children born during successive five year time intervals to the year 2010, serves to illustrate the nature and scale of the inheritance rules' impacts in the short and medium term. Between 1995 and 2010, the share of children born with entitlement under sub-section 6(1) is projected to decline from about 49 percent to about 36 percent. The share of children born with entitlement under sub-section 6(2) is expected to increase from 42 percent to about 45 percent, while children lacking entitlement are expected to increase from about 10 percent to more than 18 percent. In light of data presently earlier, these changes will be less pronounced among most on-reserve First Nations communities but much more pronounced among the majority of off-reserve First Nations populations.

---

1. The procedure employed to adjust the Nault et al estimates involved simply pro-rating the projected annual totals by the ratio of the 1996 actual registrations to the projected registrations for 1996 prepared by Nault et al. Given the over-estimation of Nault et al, the pro-rating method may also over-state the number of future registrations. These issues have been recognized by the Department and work is presently underway to revise the estimates of future C-31 registrations and the population projections.

Figure 39

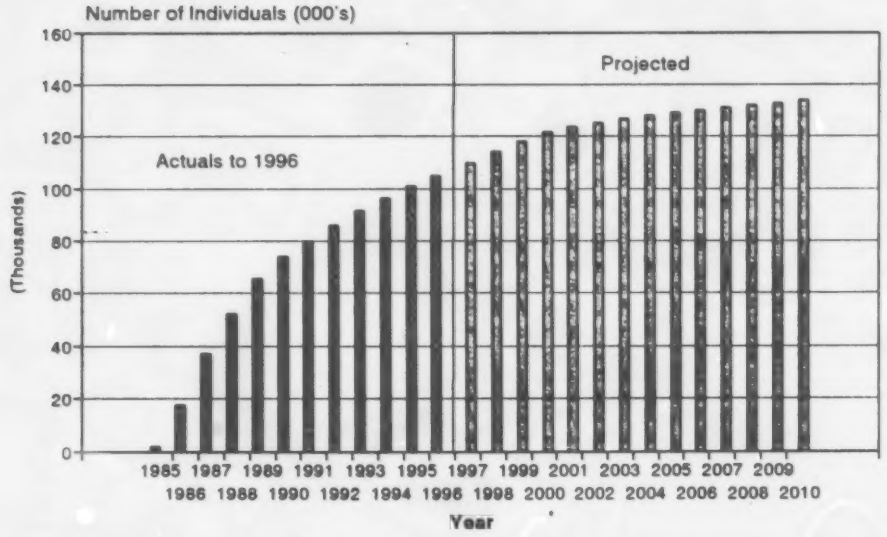
Registered Indian Population Residing Off Reserve Showing Male to Female Ratio by Age Group, Canada, 1995



Source: Nault etl al (1993), population projections, medium growth scenario.

Figure 40

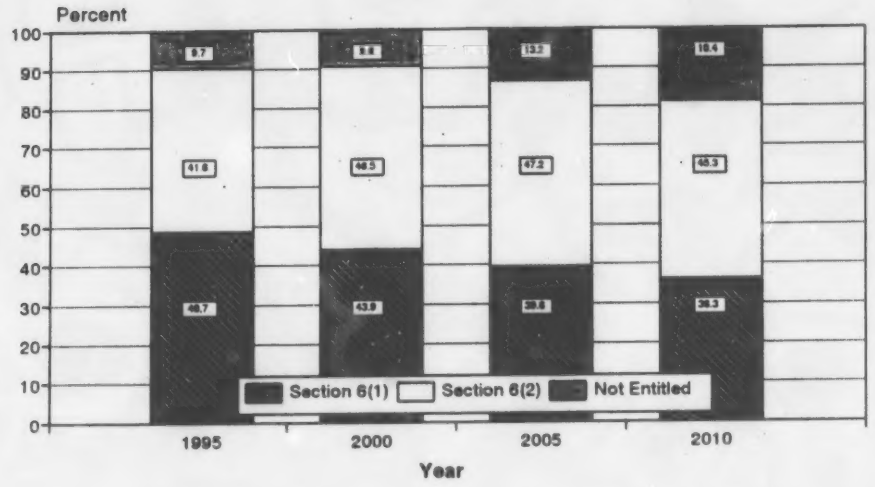
Cumulative Bill C-31 Registrations by Year
Canada, 1985-2010 (Projected)



Source: Indian and Northern Affairs Canada, S4 Reports, 1988-1996, Basic Departmental Data, 1994
Projections from Nault et al (1993) adjusted to 1996 actual baseline.

Figure 41

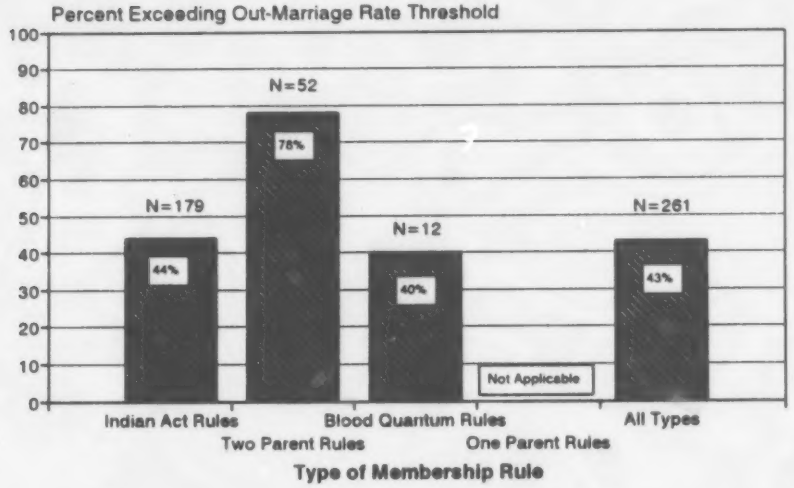
Population Born to Registered Indians During Previous 5 Year Period Showing Section 6 Entitlement Status, Canada, 1995 - 2010 (Projected)



Source: 1995 estimates derived from December 31, 1995 Indian Register. Estimates for 2001-2011 from Revised Projection Scenarios Concerning the Population Implications of Section 6 of the Indian Act, Clatworthy (1994).

Figure 42

Proportion of First Nations With Out-Marriage Rates Exceeding Threshold by Type of Membership Rule, Canada, 1992



First Nations exceeding threshold are at risk of experiencing declining member populations as a consequence of high rates of out-marriage in concert with their membership rules.
Source: Clatworthy and Smith (1992)

As illustrated by Clatworthy and Smith (1992) and Clatworthy (1993), the scale of these impacts is expected to grow rapidly beyond 2010, resulting in an increasing proportion of the descendants of the First Nations populations who will lack registered Indian status. Beyond 2010, the descendant populations of most First Nations (both on and off reserve) are expected to include many individuals not entitled to registration. In addition, after 2010 several First Nations can be expected to experience sizable losses to their population entitled to Indian registration.

3.7 Population Eligible for Membership

In their 1992 study, Clatworthy and Smith modeled the population impacts of the various types of membership rules for various out-marriage rate assumptions and identified a series of approximate out-marriage rate thresholds. The thresholds reflect the point at which out-marriage rates can be expected to combine with First Nations membership rules to cause significant declines (by 15 or more percent) in the share or proportion of their descendants who would be eligible for membership within two generations.

The results of their analysis are summarized in Figure 42. The figure identifies the number of First Nations which are at risk of experiencing declining member populations as a result of the combination of high rates of out-marriage and their membership codes. In total, 243 First Nations (or about 43 percent of those for which out-marriage rates could be estimated) had out-marriage rates exceeding the threshold. For First Nations where eligibility for membership is governed by the rules of the Indian Act, 179 of 409 (or 44 percent) were estimated to have rates of out-marriage exceeding the threshold of 40 percent. Fifty-two (or 78 percent) of 67 First Nations that had adopted two parent membership rules exhibited out-marriage rates above the 20 percent threshold.[1] Twelve (or 40 percent) of 30 First Nations where membership eligibility is determined by blood quantum had out-marriage rates exceeding the threshold of 30 percent.

Although the rates of out-marriage for 353 First Nations populations were estimated to be below the threshold, all but 90 of these First Nations are expected to experience a declining share of descendants eligible for membership. The extent of this decline will be determined in large part by the level of out-marriage.

The situation for the 90 First Nations that adopted one parent membership codes is expected to be quite different. As this type of code extends eligibility for membership to all descendants of members, the out-marriage rate does not influence

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1. The out-marriage rate thresholds vary by type of membership rule. A lower threshold exists for two parent and blood quantum membership codes because these codes are more restrictive than the membership rules embodied in the Indian Act.

membership eligibility for descendants. A majority of these First Nations (47 of 90), however, were estimated to have out-marriage rates exceeding 40 percent. For these First Nations, the future population eligible for membership is expected to include a significant proportion (15 or more percent) of individuals who are not entitled to Indian registration.

3.8 Household Growth and Distribution

As noted in the previous section of this report the registered Indian population experienced high rates of household growth during the 1985-1995 period, especially off reserve. Figure 43 presents estimates of the number of registered Indian households residing on and off reserve for select time intervals during the 1995-2010 period. These estimates, which are derived from projections prepared by Nault and Chen (1993), suggest that high rates of household growth are expected to continue in both the short and medium terms.[1] The number of registered Indian households residing on reserve is expected to increase from the 1995 level of 88,900 to about 134,200 by 2010 (an average annual rate of growth of approximately 2.7 percent). Registered Indian households are expected to increase more quickly off reserve, rising from about 117,200 in 1995 to roughly 192,900 in 2010 (an annual rate of growth of about 3.3 percent).

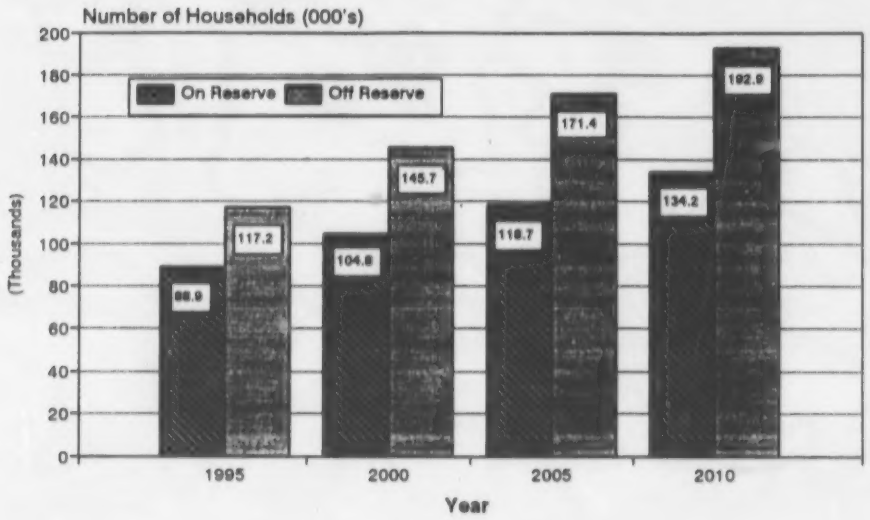
In both the on- and off-reserve contexts, the expected rate of household growth during the 1995-2010 period is greater than the expected rate of population growth. This situation implies a reduction in the average size of registered Indian households. On reserve, the average household size is expected to decline from about 4.0 persons/household in 1995 to about 3.3 persons/household in 2010. Off reserve, average household size is expected to decline from the 1995 level of about 2.2 persons/household to about 2.0 persons/household by 2010.

---

1. Household growth is influenced by not only demographic factors such as population growth and aging, but also by several socioeconomic factors such as employment and incomes which impact on one's ability to maintain a separate dwelling unit. The household projections prepared by Nault and Chan are based largely on population growth projections. Socioeconomic circumstances of the registered Indian population may contribute to higher or lower levels of household growth. In the on-reserve context, household growth can also be expected to be greatly influenced by factors affecting housing supply.

Figure 43

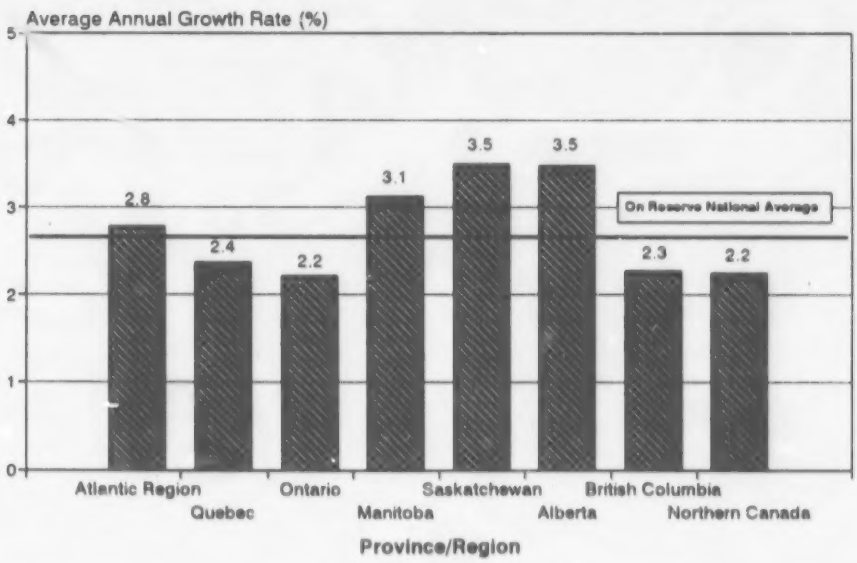
Estimated Number of Registered Indian Households Residing On and Off Reserve, Canada, 1995 - 2010 (Projected)



Source: Adapted from Nault and Chan (1993), Medium Growth Scenario.

Figure 44

Estimated Annual Growth Rate of Registered Indian Households Residing On Reserve by Province/Region, Canada, 1995 - 2010

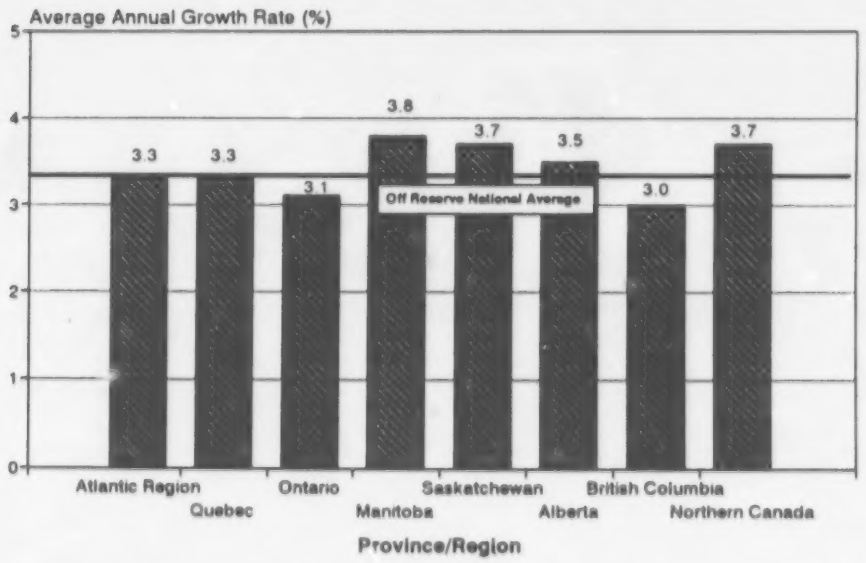


Source: Adapted from Nault and Chan (1993), Medium Growth Scenario.

As in the case of population growth, rates of household growth are expected to vary widely among provinces/regions. In relation to other provinces/regions, household growth on reserve is expected to occur most rapidly in the prairie provinces and the Atlantic region (see Figure 44). These areas are expected to experience on-reserve household growth rates which exceed the national on-reserve average. Off-reserve household growth rates are also expected to be above the national off-reserve average in the prairie provinces (See Figure 45). Higher than average rates of household growth off reserve are also forecast for Northern Canada.

Figure 45

Estimated Annual Growth Rate of Registered Indian Households Residing Off Reserve by Province/Region, Canada, 1995 - 2010



Source: Adapted from Nault and Chan (1993), Medium Growth Scenario.

4.0 Service Implications of Population Trends

The previous sections of this study have described the demographic trends and processes affecting the registered Indian population in Canada and have described past and expected future population trends. These trends have been described in terms of a variety of dimensions, including age and gender structure, household structure and regional variation. Section 4 will use the information from these demographic trends and projections as the basis for describing expected changes in the demand for various services provided by First Nations governments, the Department of Indian Affairs and Northern Development, and Health Canada over the period from 1995 to 2010. Generally this will involve describing past trends and/or current characteristics in terms of rates per population, and then extrapolating these trends into the future based on the demographic projections. Given the complexity of factors that drive demand for various services, the trends which are forecast are intended to illustrate what might occur, and are not intended to be definitive.

Since this study is based on available data sources it should not be seen as providing a comprehensive view of the many areas affected by demographic change. An effort has been made to provide information on some of the most important areas of First Nation and federal government interest, including health services, social welfare, education, housing and infrastructure and the local economy. Readers should be aware that the nature and quality of the data vary from topic to topic. Where appropriate the focus of analysis has been on units of service delivery, such as numbers of students or numbers of dwelling units. In some cases, expenditure data have been the most readily available or appropriate information on which to base the description of past and future trends.

The major challenge in undertaking this work has been the need to use data from various sources which are based on consistent definitions and time periods. The key issue in this regard is the definition of the registered Indian population. As noted in the introduction, differences exist among data provided through the various Censuses, the Aboriginal Peoples Survey (APS), the Medical Services Branch, and the adjusted and unadjusted Indian Register. In addition, much of the existing data were produced through custom tabulations for other purposes, and used a variety of basic population categories, such as age group definitions. The text comments on these aspects where appropriate, and readers are advised to note these differences as they read the material which follows.

The approach to the analysis of impacts also varies from topic to topic, depending on both the nature of the topic and data availability. In some cases it was possible to identify trends in the various components which affect the service area of interest. For example, in the area of post-secondary education, trends in enrolment rates and cost per student were incorporated into the ultimate projection of possi-

ble future costs. For other service areas analysis of the components was not possible, and therefore the projection simply assumed a continuation of the current rate or relationship of population to service demand.

4.1 Health

The size of the population and its distribution by age and gender have a bearing on the need and demand for health services. The registered Indian population living on- and off-reserve, as well as Inuit and Innu, are eligible for non-insured health benefits covering services not generally available to the public, such as the cost of prescription drugs, eyeglasses, dental care, prosthetic devices and transportation to medical centres. In addition, to these benefits, Health Canada funds a number of community-based programs such as community health services, hospitals, environmental health, and the Native Alcohol and Drug Abuse Program.

Data from the Aboriginal Peoples Survey show that the great majority of the registered Indian population had consulted someone about their health during the 12 months prior to the survey, including consultations with health professionals, para-professionals, traditional healers and community health workers. As shown in the following table, the frequency of use of these services was related to the age and location of the population, with older people and those living off-reserve consulting health professionals and para-professionals more frequently than others. It is notable that while there is a substantial gap in service use between those living on and off-reserve among those under 55, the rate of service use is almost the same on and off-reserve for those over the age of 55. (See Table 6.)

Table 6

Percentage of Registered Indian Population Who Had Seen Someone About Their Health During the Previous Year, By Age Group Canada, On and Off-Reserve, 1991

Age Group	On Reserve	Off-Reserve	Total
15-24	60.8%	72.0%	66.6%
25-54	68.4%	77.2%	73.2%
55+	83.3%	86.1%	84.5%
Total 15+	68.2%	76.5%	72.5%

Source: 1991 Aboriginal Peoples Survey data prepared for the Royal Commission on Aboriginal Peoples.

The APS also included questions concerning the incidence of a number of specific health concerns. Those surveyed were asked whether they had been "told by a health care professional" that they have diabetes, high blood pressure, arthritis or rheumatism, heart problems, obstructive lung conditions (bronchitis, emphysema, asthma), tuberculosis or epilepsy. The results of the APS survey for Canada are shown in Table 7 below. In general, these results, which are based on self-reported conditions, should be treated with caution. In addition, the wording of the question, which doesn't reference a particular time period, may make the results somewhat unreliable, particularly with respect to tuberculosis.

Table 7

Percentage of Registered Indian Population Aged 15 Years or Older Who Reported Various Health Problems on the Aboriginal Peoples Survey, On- and Off-Reserve, Canada, 1991

Condition	On-Reserve	Off-Reserve	Total
Diabetes	8.1 %	6.0 %	7.0 %
High Blood Pressure	12.6 %	11.9 %	12.2 %
Arthritis or Rheumatism	14.3 %	14.5 %	14.4 %
Heart Problems	6.7 %	6.2 %	6.5 %
Obstructive Lung Disease	12.6 %	14.9 %	13.8 %
Tuberculosis	3.7 %	3.0 %	3.3 %
Epilepsy	1.6 %	1.6 %	1.6 %
Other	10.5 %	13.5 %	12.0 %

Source: 1991 Aboriginal Peoples Survey data prepared for the Royal Commission on Aboriginal Peoples.

The table suggests that significant segments of the registered Indian population are affected by arthritis, obstructive lung disease, high blood pressure, diabetes and heart problems. The table also suggests that the prevalence of diabetes, high blood pressure, heart problems and tuberculosis is greater on-reserve than off-reserve, while obstructive lung disease is more common off-reserve.

In order to project how the rates of health conditions shown in Table 5 may change in future years, it would be desirable to have data on the prevalence of these conditions among different age and gender groups. Such data were not available,

except in the case of diabetes for which age data were available (from Bobet, 1996). Assuming that there is no change in the prevalence of diabetes among the registered Indian population by age groups, the overall number of registered Indians afflicted with diabetes is expected to increase substantially over the next 15 years. As shown in Figure 46 it is estimated that 7.0 percent of the population had diabetes in 1995. By the year 2000 this is expected to increase to about 7.5 percent and by 2010 it is expected to be more than 8 percent. This increasing percentage is due to the higher rate of diabetes among the older population and the aging of the registered Indian population over these time periods.

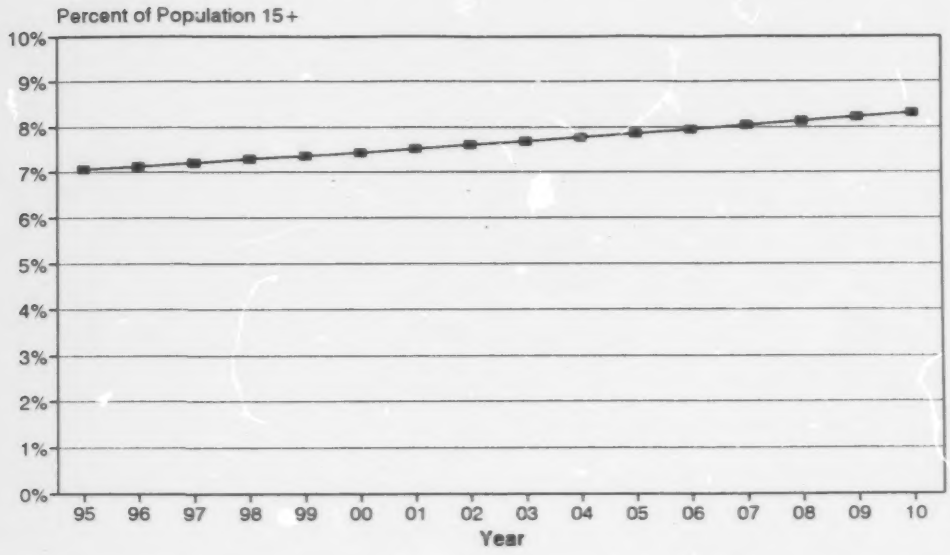
As shown in Figure 47, these proportions were applied to the total population eligible for services through the Medical Services Branch of Health Canada. (As noted above, this population is slightly greater than the registered Indian population since it includes Inuit and Innu.) In 1995 it is estimated that about 30,000 members of the eligible population were affected by diabetes. This number is expected to increase to more than 35,000 in the year 2000 and to more than 50,000 by the year 2010, and increase of more than 20,000 individuals over 15 years.

Data were requested from the Non-Insured Health Benefits Directorate of Health Canada to obtain more precise information on the relationship between age, location of residence and the demand for the non-insured health benefits provided by the Medical Services Branch. Data were provided for the 1994-95 and 1995-96 fiscal years by ten year age groups for two types of services: pharmacy and dental services. Data included numbers of individuals who received services, numbers of services provided (counting each time a service is provided to an individual) and cost. It should be kept in mind that the Non-Insured Benefits program is intended to supplement provincial or territorial programs, and that the demand for these services will vary from province to province to the extent that provincial health insurance varies.

Figure 48 shows the average number of services provided per person per year over the two year period for pharmacy and dental services by age group. (This is based on the total number of eligible claimants.) As may be seen, pharmacy and dental services follow quite different patterns. Generally, pharmacy services are provided more frequently as the population ages. Among the 10-19 age group an average of less than four pharmacy services are provided per year, while among the 50-64 age group, an average of 20 pharmacy services are provided per year. Compared to pharmacy services, fewer dental services are provided per person, and rather than increasing with age, the frequency of dental services falls among the older age groups. While older people have a greater demand for drugs, their use of dental services decreases.

Figure 46

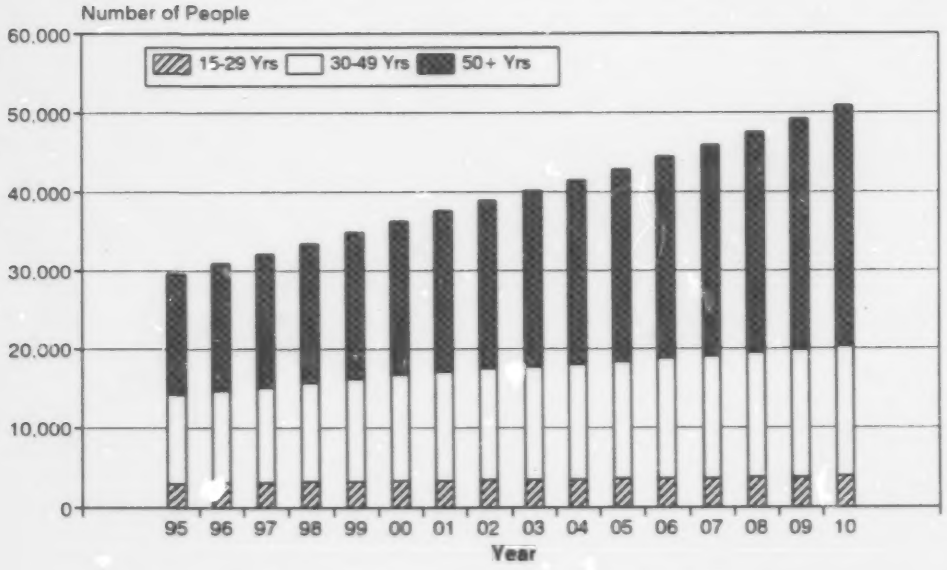
Estimated Percentage of the MSB-Eligible Population 15+ with Diabetes Based on 1991 Rates of Diabetes by Age Group. Canada, 1995 - 2010



Sources: 1991 diabetes rates from Bobet (1996); MSB-eligible population from Non-Insured Benefits Directorate, MSB Population growth based on Nault et. al., 1993 (medium growth scenario).

Figure 47

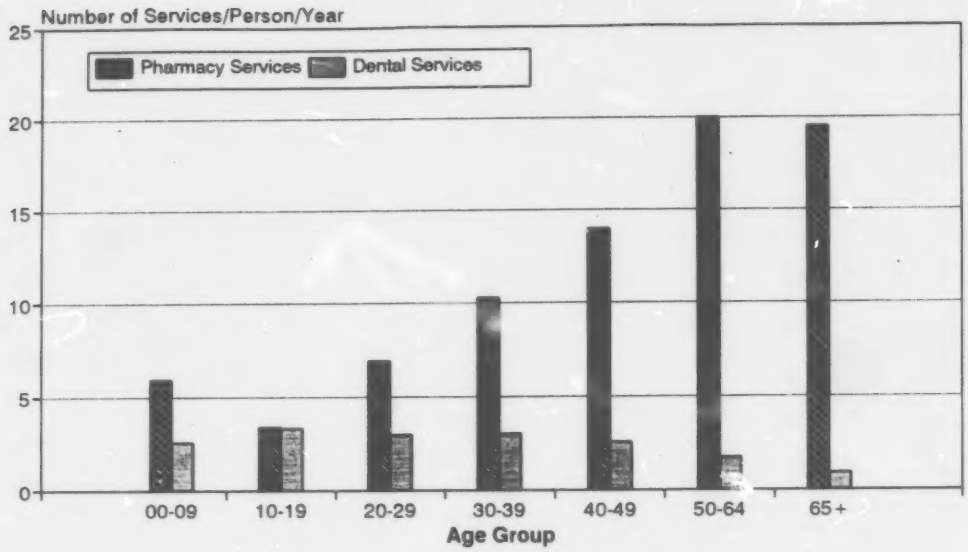
Estimated MSB-Eligible Adult Population with Diabetes by Age Group Based on 1991 Rates of Diabetes. Canada, 1995 - 2010



Sources: 1991 diabetes rates from Bobet (1996); MSB-eligible population from Non-Insured Benefits Directorate, MSB Population growth based on Nault et. al., 1993 (medium growth scenario).

Figure 48

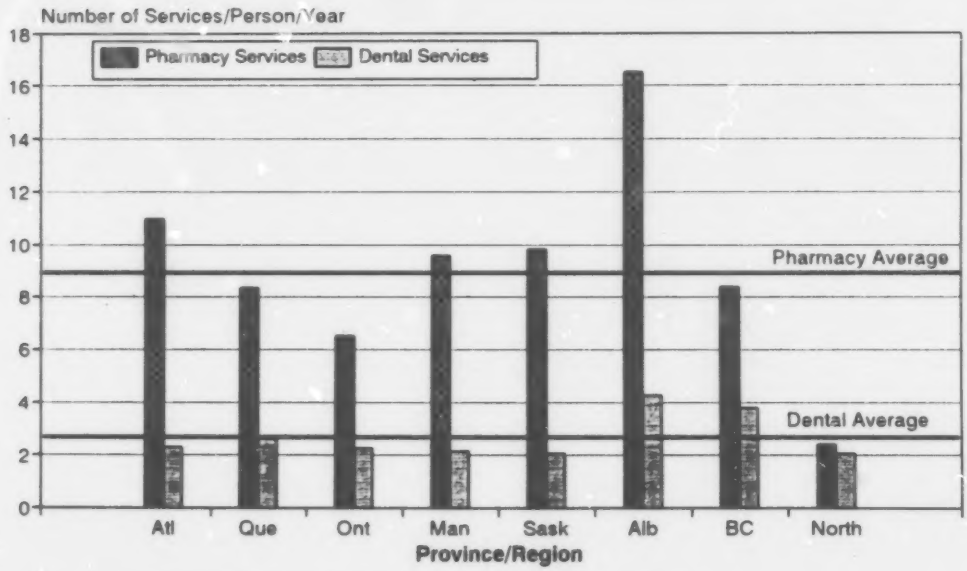
Per Capita Non-Insured Pharmacy and Dental Services Provided To Registered Indians, by Age Group, Canada Average for 1994/95 & 1995/96



Source: Data provided by Medical Services Branch, Non-Insured Health Benefits

Figure 49

Per Capita Number of Non-Insured Pharmacy and Dental Services Provided To Registered Indians, by Region, Average for 1994/95 &1995/96



Source: Data provided by Medical Services Branch, Non-Insured Health Benefits

It is notable that among those over 65 years of age, there is a slightly lower demand for pharmacy services than among those in the 50-64 age group. It is believed that this is a result of increased eligibility for provincial pharmacy services among those over 65.

Figure 49 shows average per capita pharmacy and dental services among the eligible population by province or region. Again, pharmacy services are much more frequent than dental services. The variability among the provinces is striking, with Alberta showing much higher use of both pharmacy and dental services than other provinces. In Alberta an average of 16 pharmacy services were provided annually during the two year period, twice as high or more than the average rates of Quebec, Ontario or British Columbia. Similarly, the average per capita use of dental services in Alberta was almost twice as high as in most other provinces (apart from British Columbia). These wide provincial and territorial variations reflect the supplemental nature of the Non-Insured Health Benefits program. Some changes to provincial health insurance coverage have an automatic impact on the services provided by this program.

Figure 50 provides a view of the average cost of Non-Insured Health Benefits for the various age groups. While the number of pharmacy services provided per capita was much greater than the number of dental services, there is less difference in terms of average cost per eligible person. As with the number of services, the average cost of pharmacy services increases among the older age groups, while the average cost of dental services declines among the older groups.

Figure 51 again shows that, in terms of costs, there is a great deal of variation among different provinces, with average costs per person being highest in Alberta for both pharmacy and dental services. The average cost of dental services was lowest in Saskatchewan and Manitoba and the average cost of pharmacy services was lowest in the North (Yukon and the Northwest Territories).

Assuming that there is no change in the average number of services provided per person it is possible to estimate future demand for Non-Insured Health Services.[1] This was done, based on the average number of services per age group, and the projected eligible population. (Registered Indian population growth rates based on Nault et. al., 1993 were applied to the MSB-eligible population to estimate the future MSB eligible population.)

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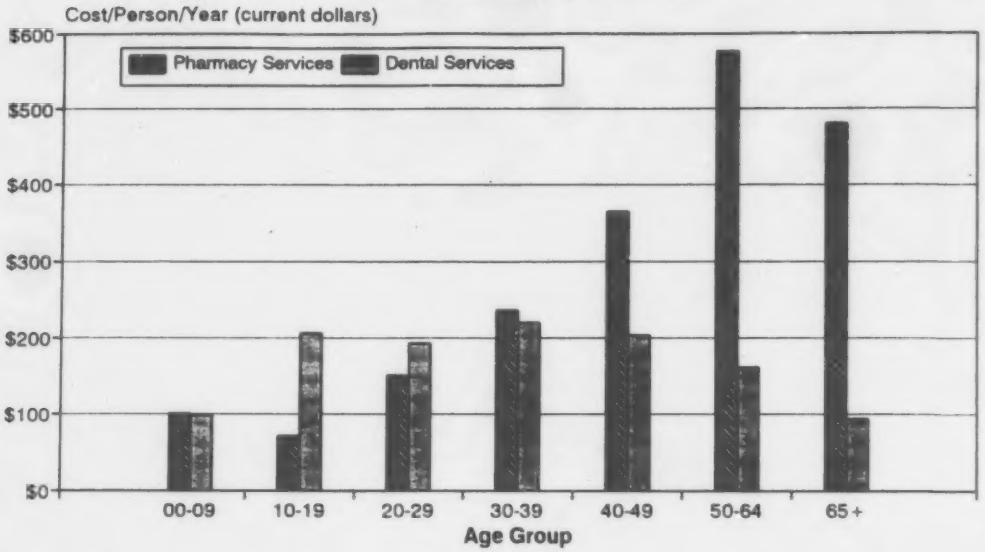
1. This assumption is known to be false to some degree since there are ongoing policy changes within the Non-Insured Health Benefits program which, together with potential changes in provincial insurance programs, will affect the rate of service provision. For example, as of January, 1996 new guidelines governing the maximum number of services to be provided per time period were introduced and are expected to result in $18 million savings per year.

Figure 50

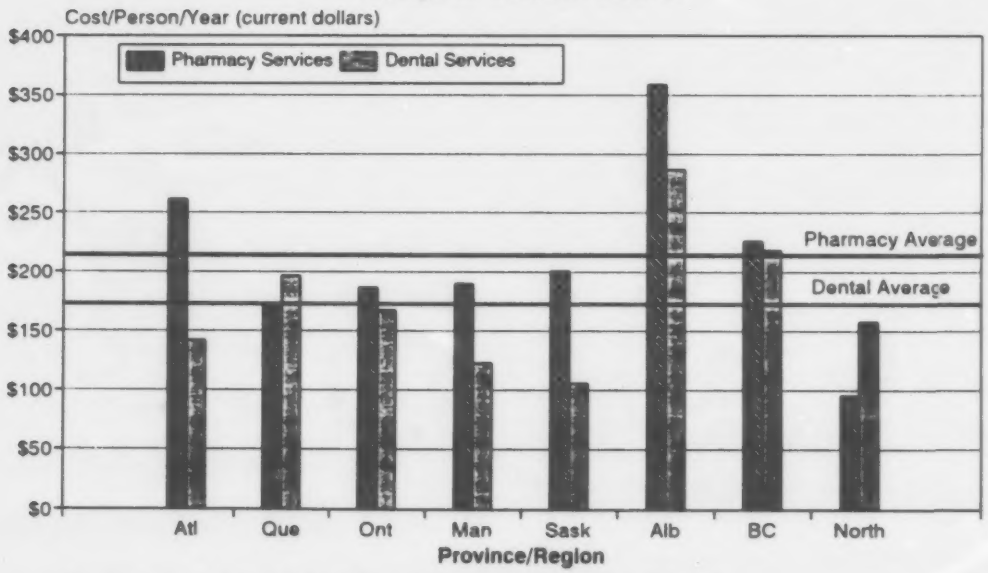
Per Capita Expenditures for Pharmacy and Dental Services Provided To Registered Indians, by Age Group, Canada Average for 1994/95 & 1995/96



Source: Data provided by Medical Services Branch, Non-Insured Health Benefits.

Figure 51

Per Capita Expenditures for Pharmacy and Dental Services Provided To Registered Indians, by Prolnce/Region, Canada Average for 1994/95 & 1995/96



Source: Data provided by Medical Services Branch, Non-Insured Health Benefits.

Figure 52 shows the projected number of pharmacy and dental services, based on this assumption. It is projected that there will be an increase in the number of pharmacy services from about 5.5 million services provided in the 1995-96 to 6.5 million services in the year 2000 and 8.4 million services in 2010. This is an increase of more than 50 percent in the number of pharmacy services over 15 years. The projected increase in dental services over the same period is not as great in absolute numbers nor as a percentage increase. Dental services are projected to increase from 1.7 million services in 1995 to 1.9 million services in the year 2000 and 2.2 million services in 2010, a 32 percent increase over 15 years.

As shown in Figure 53, expenditures associated with the pharmacy and dental programs are projected to increase at an even higher rate than are the number of services. This is because both types of expenditures are generally higher for older adults than for children, and the eligible population is aging. (See Figure 50 above.) Pharmacy services, which cost $130 million in 1995 are projected to cost more than $150 million in the year 2000, and more than $200 million in 2010 (a 56 percent increase). Dental services, which cost $107 million in 1995 are projected to cost more than $120 million in the year 2000, and about $145 million in 2010 (a 37 percent increase). (All figures are in 1995 dollars.)

4.2 Social Welfare

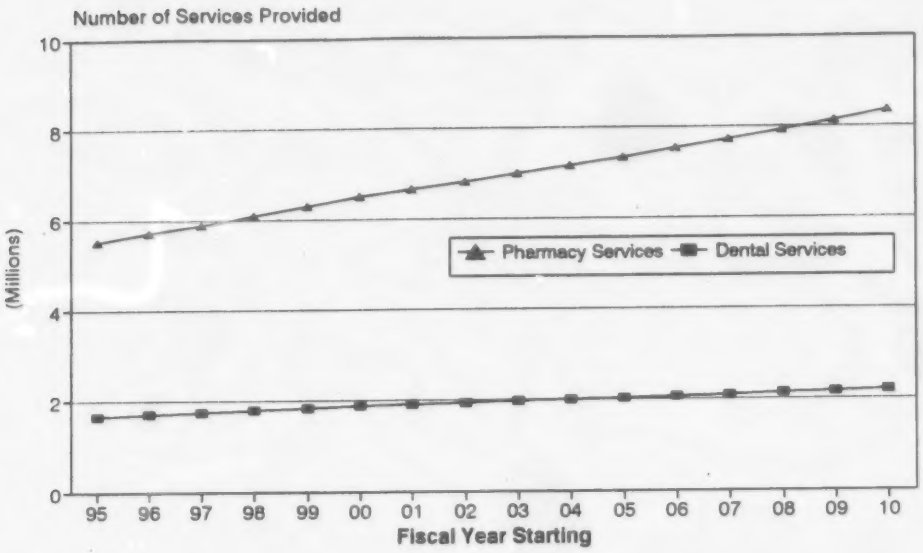
Assuming that other factors such as employment rates, age structure and family composition remain constant, a change in the population will lead to a proportional change in the community's social assistance budget. Similarly, an increase in population would be expected to lead to increased demand for a variety of other social services, such as the number of children in care or the demand for child care services, other factors remaining constant. In addition to population size, the distribution of the population by age and family types is also related to the provision of social welfare services. A population with a higher proportion of childless couples or two-parent families would be expected to have fewer people dependent on social assistance than a population with a higher proportion of lone parent families.

Employment circumstances, of course, have an independent effect on the need for social assistance. This may be looked at in terms of total employment in a community or employment rates. Since other factors such as family type and educational levels influence employment, these factors indirectly influence demand for social assistance as well.

Unfortunately, there was insufficient data for most of these various factors to establish a trend among the registered Indian or on-reserve populations. However, data were available at the national and provincial/regional level concerning the numbers of social assistance beneficiaries and the population living on reserves,

Figure 52

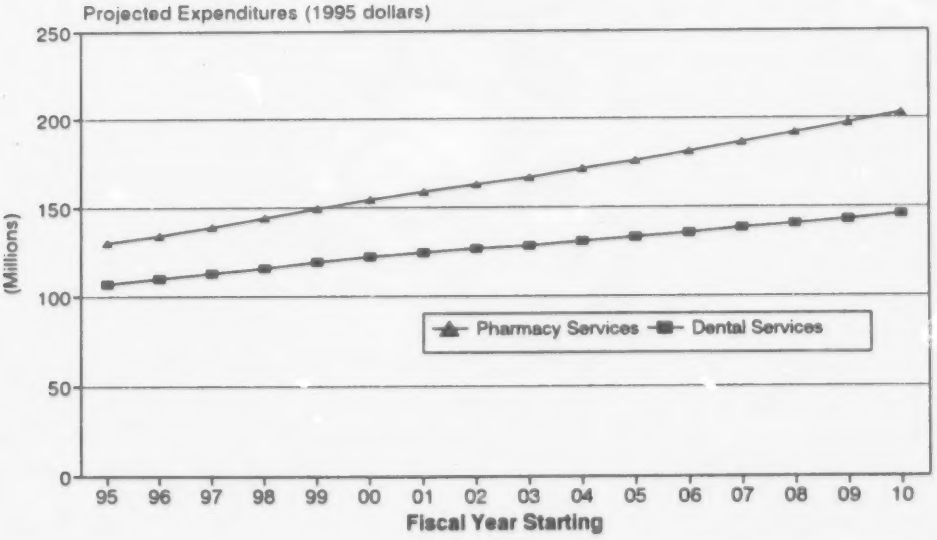
Projected Non-Insured Health Services Provided by Medical Services Branch
By Type of Service, Canada, 1995 - 2010



Sources: Nault et. al. 1993; Data provided by Non-Insured Health Benefitis Directorate, Medical Services Branch.

Figure 53

Projected Non-Insured Health Expenditures by Medical Services Branch
By Type of Service, Canada, 1995 - 2010



Sources: Nault et. al. 1993; Data provided by Non-Insured Health Benefits Directorate, Medical Services Branch.

which allowed for the calculation of trends in social assistance rates.[1] These trends could then be applied to the projected future on-reserve population to estimate future numbers of social assistance beneficiaries (that is, numbers of individuals dependent on social assistance).

Figure 54 shows the historic and projected trend for Canada in social assistance rates on reserves, defined as the monthly average number of beneficiaries divided by the total on-reserve population for that year. (The adjusted Indian register population has been used.) The forecast trend line is based on a linear regression for the fiscal years from 1981-82 through 1995-96. ($R^2 = .89$.) As of 1981-82 somewhat less than 40 percent of the on-reserve population was dependent on social assistance payments. By 1995-96 this proportion had increased to almost 45 percent.

The historic data show a clear upward trend in social assistance dependency such that by the year 2001-02 about 50 percent of the on-reserve population is expected to depend on social assistance payments in any given month. By the year 2010 about 57 percent of the population could be dependent on social assistance if the trend continues.

Figure 55 shows both the historic and forecast trend in the monthly average number of social assistance beneficiaries on Canadian reserves. The forecast is the result of multiplying the forecast social assistance dependency rate (from Figure 54) by the projected on-reserve population (from Nault et. al.). This shows that the registered Indian population on-reserve that is dependent on social assistance is likely to increase from its current level of about 150,000 to about 200,000 by 2003 and to 250,000 by the year 2010, a 66 percent increase over the 15 year period.

These numbers could be greatly affected by the employment situation on reserves. Implicit in the forecast is an assumption that other factors, such as the on-reserve employment rate and eligibility criteria for social assistance, remain the same. There is little evidence, however, to suggest a trend towards improved employment rates on reserves. Even for the on-reserve employment rate to remain the same there will have to be substantial growth in the number of jobs available on reserves. (This will be discussed in section 4.6 below -- see page 92.) In other words, the social assistance forecast shown in Figure 55 assumes growth in employment on reserves at about the same rate by which it has grown over the past 15 years.

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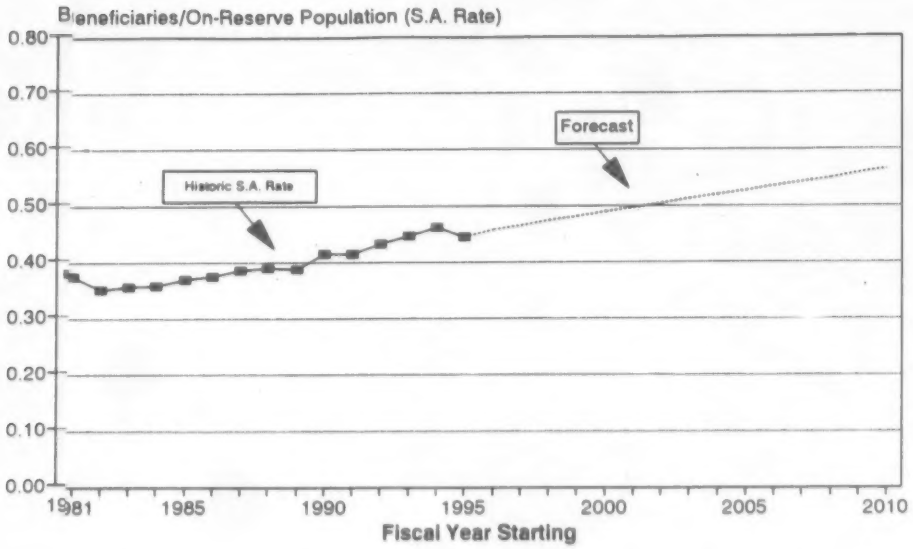
1. A portion of social assistance data is collected through reporting under Alternative Funding Arrangements. The accuracy of these data is questionable.

Figure 54

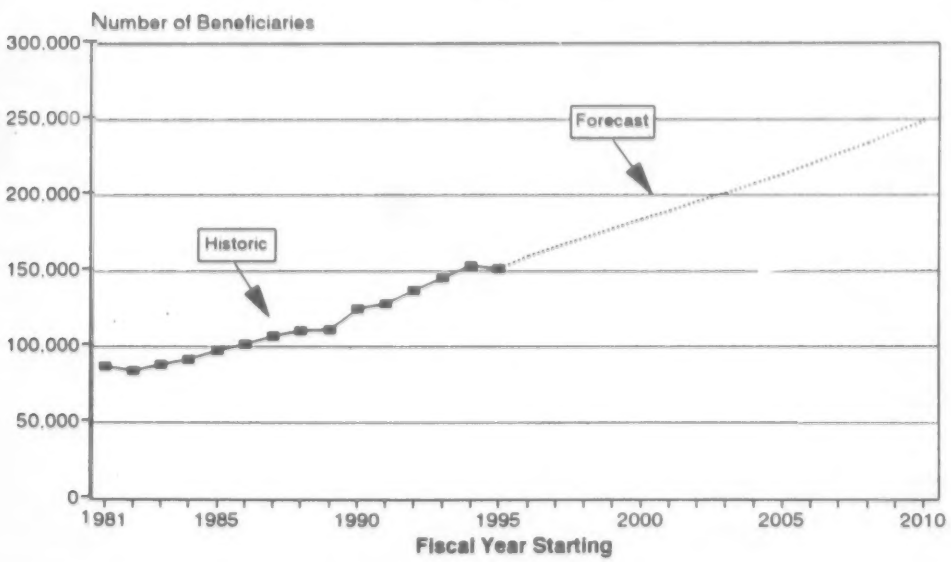
On-Reserve Social Assistance Rate Trend and Forecast
Canada, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research & Analysis Directorate.

Figure 55

Historic and Forecast On-Reserve Social Assistance Beneficiaries
Canada, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

There are large variations in on-reserve social assistance dependency rates in different regions of the country. Figure 56 shows the current and forecast rates for each Indian Affairs region for the years 1995-96, 2001-02 and 2010-11. The figure shows that current and future social assistance dependency is highest in the Atlantic region, where it currently stands at about 75 percent of the on-reserve population. Current rates in the western provinces are also high, particularly in Manitoba and Saskatchewan where they are above 50 percent. Rates in Quebec, Ontario[1] and Yukon are less than 30 percent. Social assistance dependency rates are expected to increase in all regions, but the forecast rate of increase is much higher in some regions than in others, particularly in Alberta and British Columbia.

As shown in Figure 57, there are also wide variations in the forecast growth in the number of social assistance beneficiaries. Because of the high forecast rate of growth in social assistance dependency, together with substantial population growth, Alberta is expected to see by far the largest increase in numbers of social assistance beneficiaries, with net increases of more than 9,000 beneficiaries during the 1995-2000 and 2000-2005 periods and more than 10,000 during the 2005-2010 period. Saskatchewan is forecast to see net increases of about 6,000 beneficiaries during each five year period, while Manitoba is forecast to have increases in the 4,000 to 5,000 range during the three periods. The Atlantic and Quebec regions have lower growth forecasts, but are still expected to see increases of 1,500 to 2,000 beneficiaries in each period.[2]

The Department of Indian Affairs and Northern Development also provides funding support for child welfare services on reserves. As shown in Figure 58, the proportion of children under the age of 16 who are in care fell between 1981 and 1986, after which it remained fairly constant at slightly less than 4 percent of the population. At the same time, the number of registered Indian children living on reserve has increased. The result has been that from 1981 to 1986, the number of on-reserve registered Indian children in care fell from more than 5,100 to about 3,600. Since 1986, however, the number of on-reserve children in care has increased steadily reflecting population growth, reaching 5,000 again by 1994. (In addition, the child welfare statistics probably include a number of children who are living on reserves, one of whose parents is registered Indian, but who are not entitled to be registered under the Indian Act as a result of Bill C-31 inheritance rules. The exact number of such children is unknown.)

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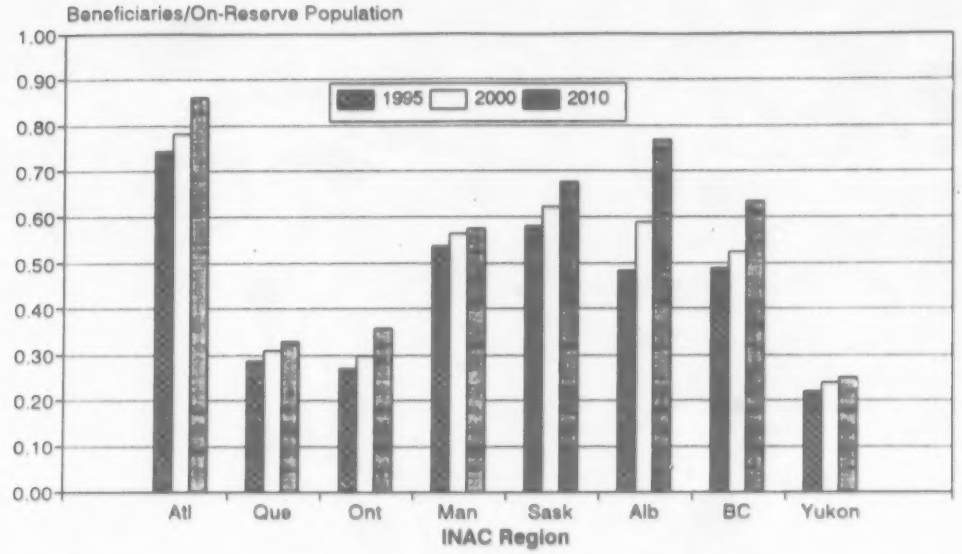
1. An unknown number of individuals living on reserve are provided with provincial social assistance under the Ontario Family Benefits Act. These individuals and the associated social assistance costs are not included in DIAND statistics, which means that the social assistance dependency figures shown in this report for Ontario are an under-estimate.

2. Detailed figures showing the trends in social assistance dependency rates and numbers of beneficiaries are provided for each region in Appendix A.

Figure 56

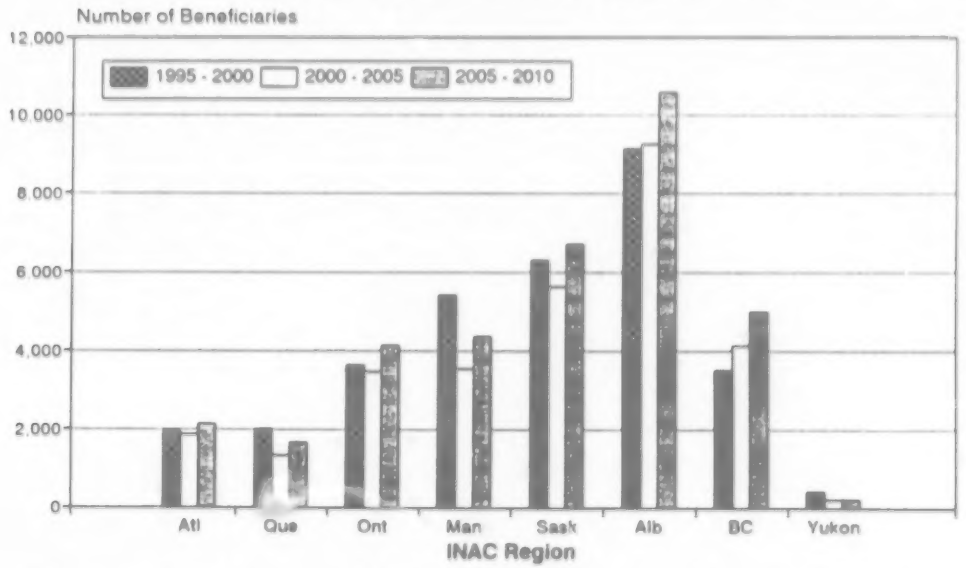
Current and Forecast On-Reserve Social Assistance Dependency Rates
By Region and Year, 1995, 2000 and 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate

Figure 57

Forecast Growth in Number of Social Assistance Beneficiaries
5 Year Periods, On Reserves, by Region, 1995-2010

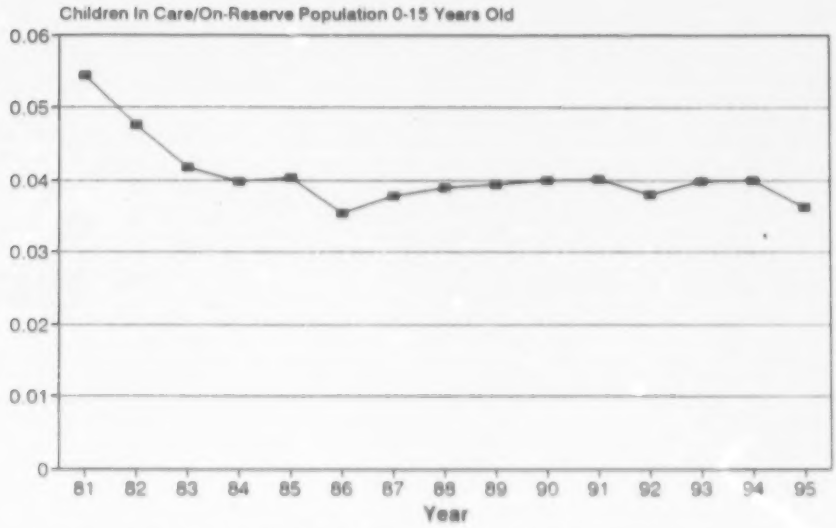


Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate

Figure 58

Proportion of Registered Indian Children in Care

Canada, On-Reserve, 1981 - 1995

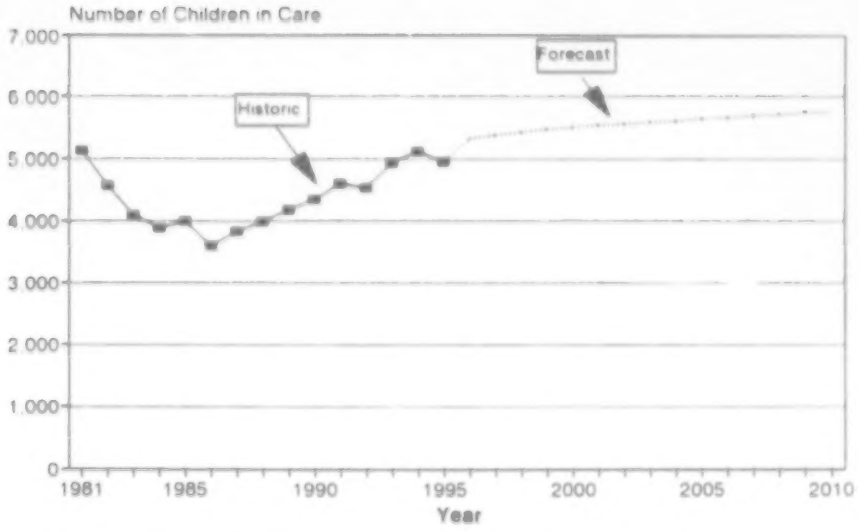


Source: Basic Departmental Data, Indian and Northern Affairs Canada, 1996

Figure 59

Historic and Forecast Registered Indian Children in Care

Canada, On-Reserve, 1981 - 2010

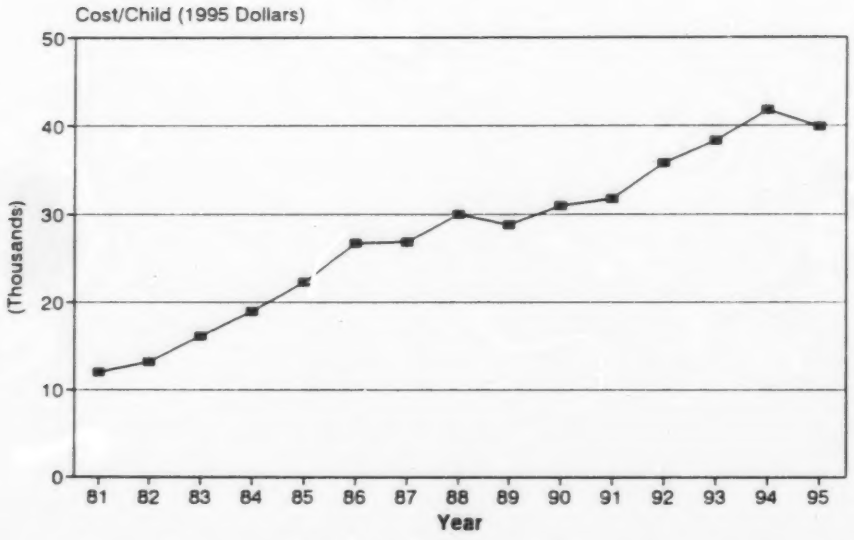


Source: Basic Departmental Data, Indian and Northern Affairs Canada, 1996

Assuming that the proportion of children in care remains constant, projected population growth among children on reserves will mean a continued increase in children in care, although the increase will be more gradual than over the past ten years. By 2000 the number of children in care would reach 5,500, and by 2010 the number of children in care would approach 5,800. (See Figure 59.) Expenditures for child welfare on reserves are likely to increase more rapidly than will the number of children in care. As shown in Figure 60, expenditures per child in care have increased steadily in real dollars throughout the 1981 - 1995 period.

Figure 60

Cost Per Registered Indian Child In Care
In 1995 Dollars, Canada, On-Reserve, 1981 - 1995



Source: Basic Departmental Data, Indian and Northern Affairs Canada, 1996; Consumer Price Index

4.3 Education

Enrolment of the on-reserve population in elementary and secondary schools may be seen as a function of the size of the population of given age groups and changes in the enrolment rate (or participation rate) for a given age group. National and regional data on student enrolments by age were obtained from the Nominal Roll (the student registry system for on-reserve students) for 1985, 1990 and 1995.[1] In order to establish enrolment rates, population data from the Indian Register for December 31 of the same years were used.[2]

For the purpose of calculating enrolment rates the student population was divided into four groups. Where possible these groups were based on five-year age cohorts in order to match the Nault et. al. (1993) projection cohorts. Because there is a sharp drop-off in enrolment rates among older teenagers, two cohorts were used to cover the bulk of the school-age population -- 5 to 14 year-olds and 15 to 19 year-olds. Since there are also many 4 year-olds attending Nursery or Junior Kindergarten programs, usually at a lower enrolment rate than among older children, a 4 year-old cohort was added. In order to take account of the increasing numbers of students over the age of 20 who are attending high school, a 20 to 24 year-old cohort was used. (In this case the total enrolment aged 20 or more was divided by the 20 to 24 year-old population.)

Figure 61 shows the enrolment rate trends for these four age groups for Canada as of 1985, 1990 and 1995. The highest enrolment rate, at about 90 percent, is found among the 5 to 14 year-old group. Based on data from the Nominal Roll and Indian Register, the rate seems to have been falling over the past ten years. This finding is inconsistent with the general pattern, and the expectation that enrolment rates in Indian schools has been increasing. Given some uncertainty as to the accuracy of the Indian Register, this finding should be viewed with caution.

Enrolment rates among the other age groups have been increasing during the same period. Among 4 year-olds the enrolment rate was almost 75 percent in 1995,

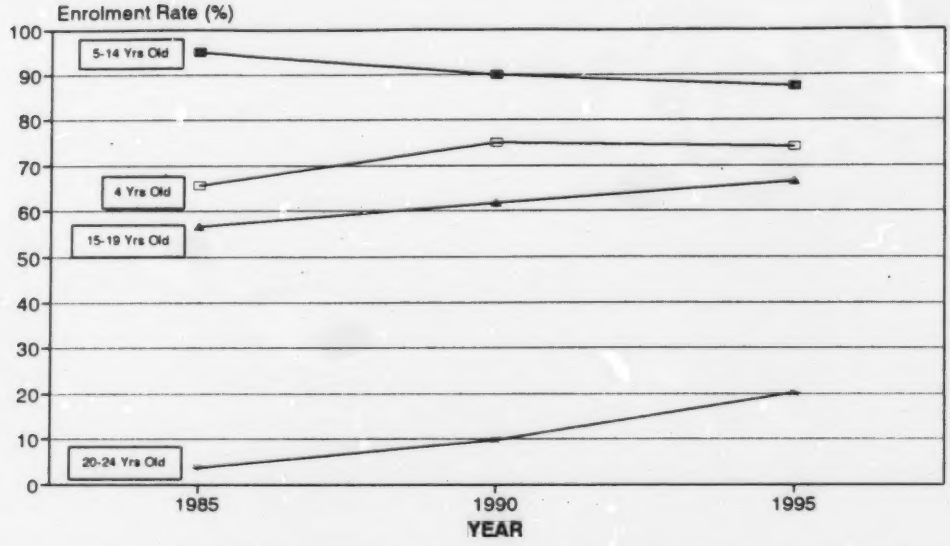
---

1. Until recently the Nominal Roll identified the student's age as of September 30 rather than December 31. Therefore, for 1985 and 1990 adjustments were made to the Nominal Roll population in order to estimate the numbers of students within a given age group as of December 31. For example, 25% of the 4 year-olds were assumed to have birthdays during October-December and were subtracted from the 4 year-old cohort and added to the 5 year-old cohort. Nominal Roll data for 1980 were also assessed, but were felt to be too inaccurate, often resulting in enrolment rates of over 100%.

2. The Nominal Roll includes a small number of students who do not have registered Indian status but who live on reserves and whose education is provided by the First Nation. These students include children of registered Indian parents who are not entitled to Indian status as a result of the Bill C-31 inheritance rules.

Figure 61

Elementary/Secondary On-Reserve Enrolment Rate Trends
By Age Group, Canada 1985, 1990 & 1995

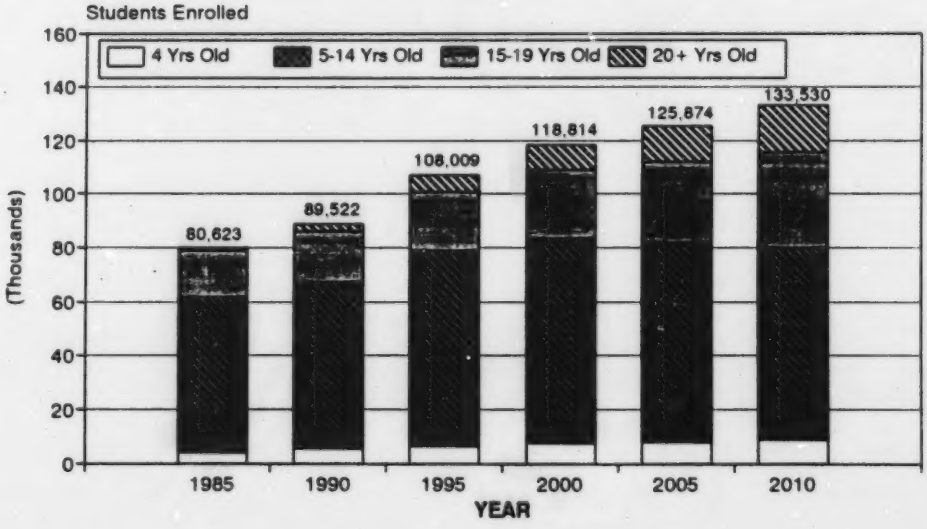


Sources: Nominal Roll, 1985 (adjusted), 1990 (adjusted) and 1995 ; Indian Register, 1985, 1990, 1995.

Notes: Inuit not included in 1990 and 1995 Nominal Roll; Adjustments made to Quebec 1985 Nominal Roll data.
Age adjustments made to 1985 and 1990 Nominal Roll data.

Figure 62

Historic and Projected Elementary/Secondary Enrolment of
On-Reserve Registered Indian Students, By Age Group
Canada, 1985 - 2010



Sources: Nominal Roll; Indian Register; Nault et. al., 1993.

while among the 15 to 19 year-old population it has increased from about 57 percent in 1985 to about 67 percent in 1995. As might be expected, the enrolment rate of those over 20 years old is much lower than among younger age groups, but it has increased dramatically over the ten year period. It more than doubled from about 4 percent in 1985 to 10 percent in 1990, and then doubled again to 20 percent in 1995. Again, there are concerns about the accuracy of the data, but the trends among the older age groups are clear and substantial and confirm the widely reported finding of increased high school enrolments among registered Indian students living on reserves.

Figure 62 shows the historic and projected elementary/secondary on-reserve enrolments for Canada by age group. The projection is based on the enrolment rate trends from 1985 through 1995 and on the population projections of Nault et. al. (1993). Elementary and secondary school enrolments are expected to increase by more than 10,000 (10 percent) between 1995 and 2000. Enrolments are expected to grow somewhat more slowly over the period from 2000 to 2010, but are still expected to increase by almost 15,000 (an additional 12 percent) during this period. This will have an impact on both the education program's operational budget, as well as on the demand for new school construction.

Growth of elementary and secondary school enrolments is not expected to be uniform across the country. As shown in Figure 63 the prairie provinces are expected to experience the most rapid growth in numbers of students over the 15 year time period. Saskatchewan's enrolment is expected to experience the greatest increase, with a projected increase of more than 2,500 students over the 1995-2000 period, and additional increases of about 2,000 students during each of the next two five-year periods. Manitoba and Alberta are also expected to have large numbers of additional students -- about 2,000 to 2,200 additional students during the first five-year period, and about 1,500 to 1,700 during each of the next two periods. Projected increases are smaller in Quebec and Ontario, while growth in the Atlantic region is smaller yet. British Columbia is expected to have modestly growing enrolments during the 1995 to 2000 period, and little or no growth in the period from 2000 to 2010.

These projected enrolment increases will mean that the majority of student growth will occur in the three prairie provinces. As shown in Figures 64 and 65, more than 60 percent of projected student growth during the 1995-2000 period is expected to occur in the prairie provinces, while this proportion is expected to be more than 70 percent during the 2000-2010 period.[1]

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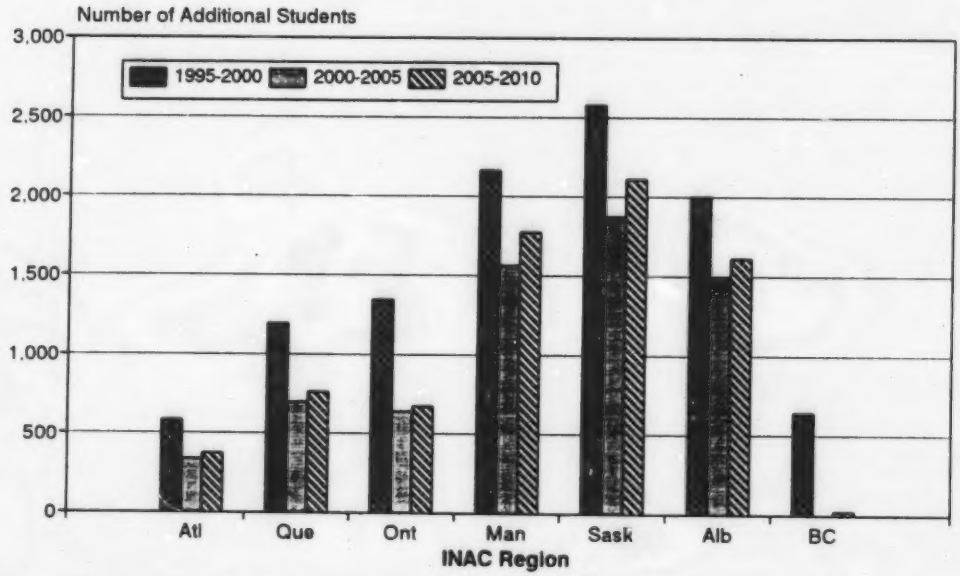
1. Figures showing projected elementary/secondary enrolments for each region are provided in Appendix B.

Figure 63

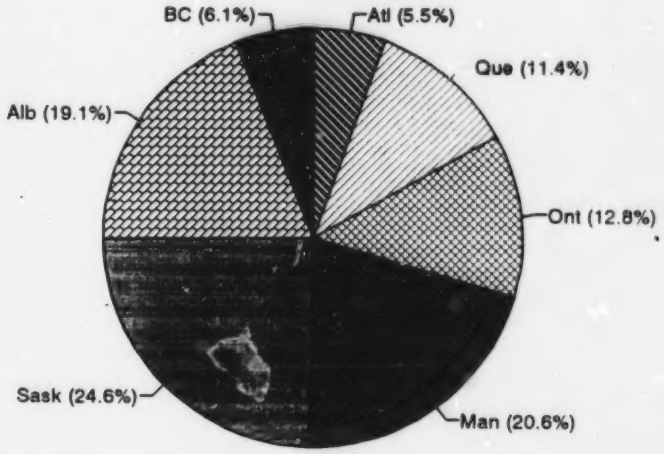
Expected Growth in Elementary/Secondary On-Reserve School Enrolments
By INAC Region, Five-Year Periods, 1985 - 2010



Sources: Nominal Roll; Basic Departmental Data, 1996; Indian Register

Figure 64

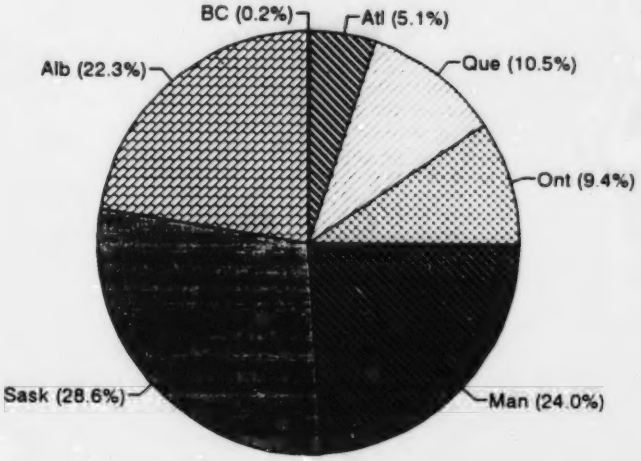
Share of Projected Growth in Elementary/Secondary Enrolments
By INAC Region, 1995 - 2000



Sources: Nominal Roll, 1995 ; Indian Register, 1995; Nault (1993).

Figure 65

Share of Projected Growth in Elementary/Secondary Enrolments
By INAC Region, 2000 - 2010



Sources: Nominal Roll, 1995 ; Indian Register, 1995; Nault (1993)

Post-secondary enrolments can also be viewed as a function of population growth and enrolment rate trends. For the purposes of this study the enrolment rate was defined as the total number of full and part-time post-secondary students sponsored by the department, divided by the total (on and off-reserve) registered Indian population between the ages of 20 and 29.[1] As illustrated in Figure 66, registered Indian enrolment rates increased steadily between 1981 and 1994. The forecast scenario illustrated in the figure assumes that the enrolment rate will continue to increase until the year 2000 when it is assumed to reach the average for all Canadians (which was about 30 percent in 1991-92)[2], after which it will stay at that level.

At the same time the population between the ages of 20 and 29 is expected to grow by about 20,000 over the 15 year period from 1995 to 2010, as illustrated in Figure 67. This population will grow at a slower rate during the period from 1995 through 2005, after which it is expected to grow more rapidly. When the enrolment rate trend and population growth trends are combined, a rapid growth in post-secondary enrolments is projected particularly during the period from 1995 to 2000. As illustrated in Figure 68, an increase of about 6,000 post-secondary students is projected for the first five-year period (1995-2000), and an additional increase of 7,000 students is projected for the following ten year period (2000-2010), bringing the total expected enrolment to about 40,000 full and part-time registered Indian students in 2010.

Expenditures for post-secondary students have also been increasing, not only because of increased enrolments, but also because of an increase in the real cost per student. As shown in Figure 69, the cost per student has fluctuated over the 1984 to 1995 period, but has been on an upward trend. If the past trend continues, the cost per student is expected to increase from its 1995 level of just under $10,000 to more than $10,500 in 2010 (in constant 1995 dollars). When this trend in costs is combined with projected increases in post-secondary students, a rapidly increasing expenditure pattern is projected, as shown in Figure 70. The combined pressure of growth in eligible students, increasing enrolment rates and increasing costs per student are expected to result in growth in expenditures from about $260 million in 1995 to about $340 million in 2000 and about $440 million in 2010 (in 1995 dollars), a real increase of 70 percent over the 15 year period.

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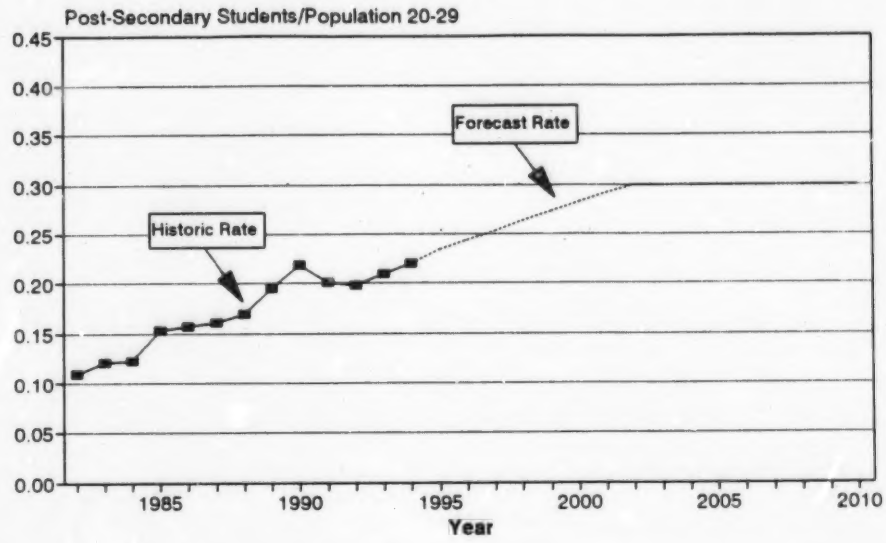
1. Short of obtaining age-specific post-secondary enrolment data, which were not available for this study, there is no perfect age group to use as the basis for calculating enrolment rates. Registered Indian students tend to be older, frequently returning to college or university as mature admissions. The 20-29 year-old age group was felt to be as appropriate as any, and data for this population is relatively easy to obtain.

2. Based on data on full and part-time enrolments in community colleges and universities in Canada contained in *Education in Canada, 1995* (Statistics Canada Catalog # 81-229-XPB) and population data from the 1991 Census of Canada.

Figure 66

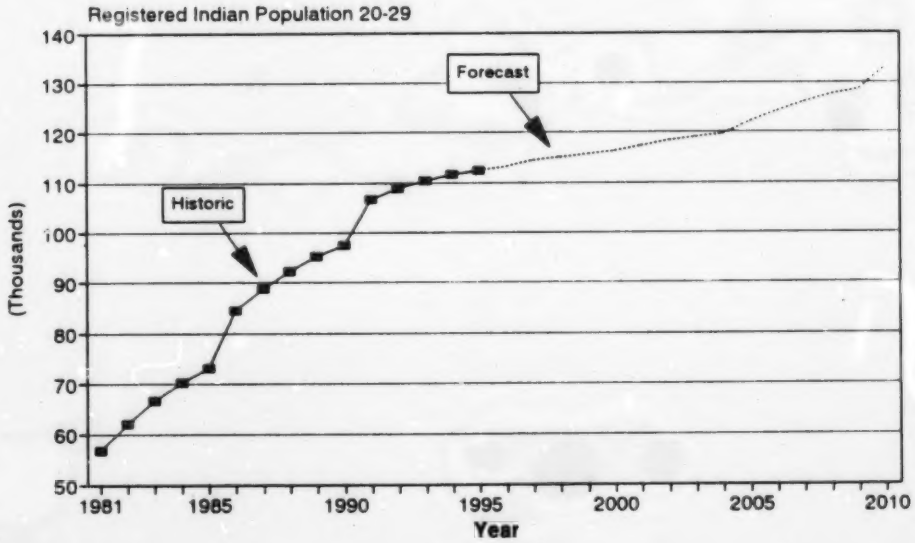
Historic and Forecast Post-Secondary Enrolment Rate
Registered Indian Population, Canada, 1981 - 2010



Sources: Basic Departmental Data, Indian and Northern Affairs Canada, 1995; Nault et al. 1993; Indian Register Population by Sex and Residence, Indian and Northern Affairs Canada, various years.

Figure 67

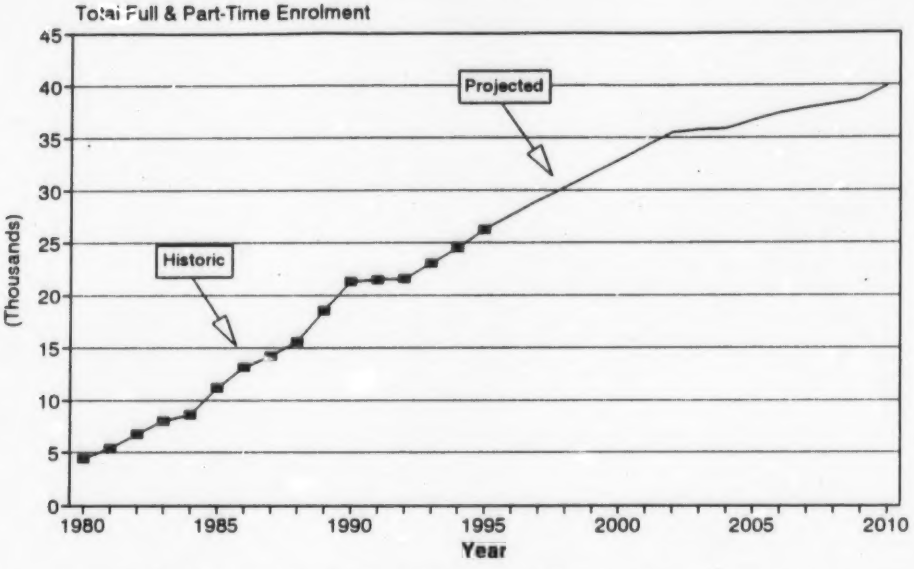
Historic and Forecast Registered Indian Population 20-29
Canada, 1981 - 2010



Sources: Basic Departmental Data, Indian and Northern Affairs Canada, 1995; Nault et al. 1993; Indian Register Population by Sex and Residence, Indian and Northern Affairs Canada, various years.

Figure 68

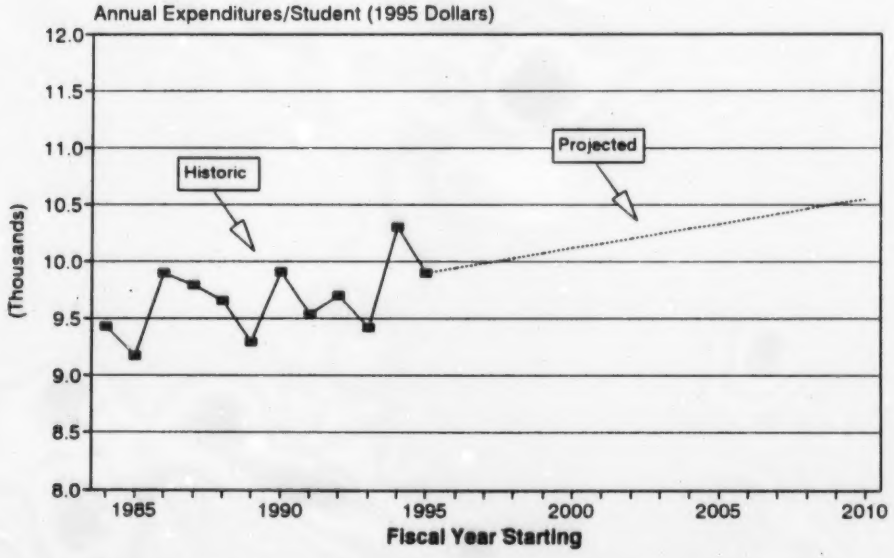
Registered Indian Post-Secondary Enrolment Trend
Canada, 1980 - 2010



Sources: Basic Departmental Data, Indian and Northern Affairs Canada, 1995; Nault, 1993.

Figure 69

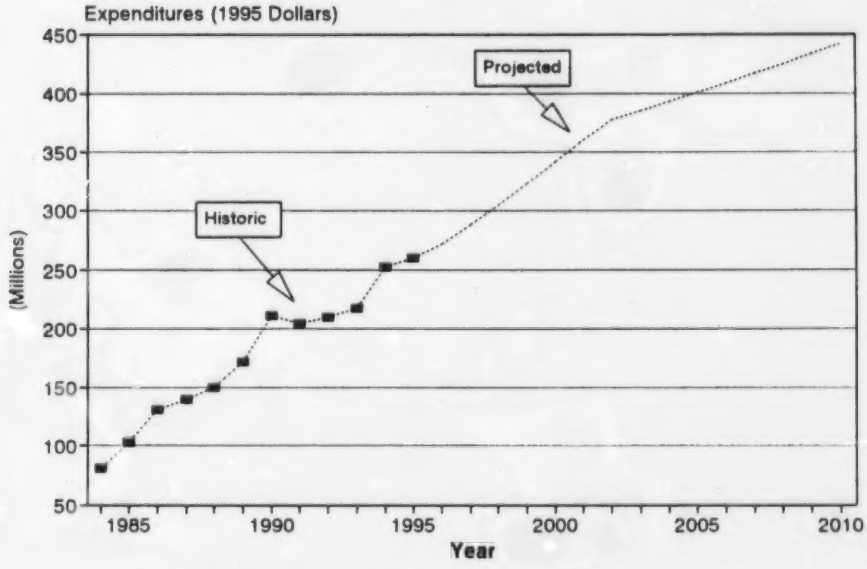
Trends in Costs Per Registered Indian Post-Secondary Student
Canada, 1984 - 2010



Sources: Basic Departmental Data, Indian and Northern Affairs Canada, 1995;
Financial Analysis and Program Review, Indian and Northern Affairs Canada.

Figure 70

DIAND Post-Secondary Expenditure Trend
Canada, 1984 - 2010



Sources: Basic Departmental Data, Indian and Northern Affairs Canada, 1995.
Financial Analysis and Program Review, Indian and Northern Affairs Canada.

4.4 Housing

Demand for housing on reserves is generated in part by natural increase among the on-reserve population and by the rate of family formation on reserves. It may also be generated by migration to reserves. Availability of housing is believed to have an impact on migration to reserves, but analysis of the relationship between housing construction and migration to reserves is beyond the scope of this study. Rather, the study will focus on the reserve housing stock for which data are maintained by DIAND.

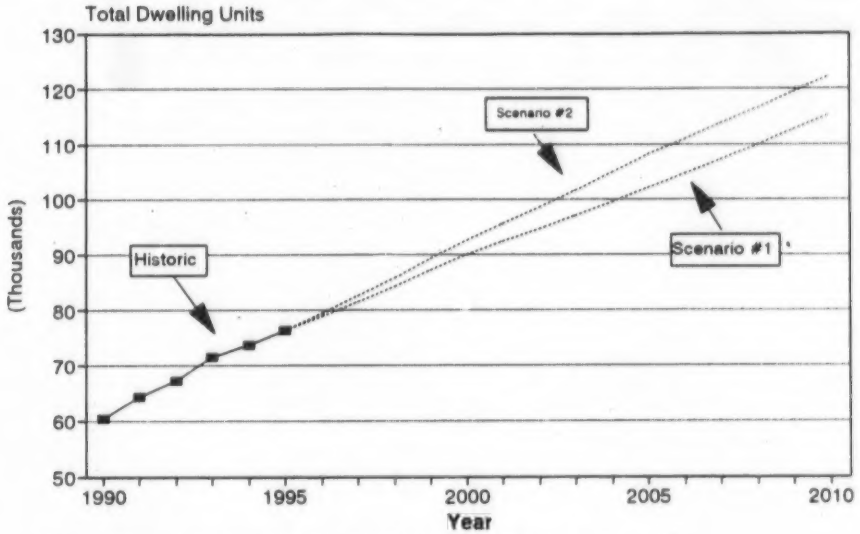
When the number of housing units identified by the department (from the **Basic Departmental Data** publication) is divided by the number of on-reserve households estimated by Nault and Chen (1993) the result is a ratio of about .85. Assuming that this ratio remains constant, it may be used to estimate future housing demand by applying it to the projected number of on-reserve households. Nault and Chen (1993) project both the number of households and the total number of families living on reserves, including the number of families who are sharing accommodations. This forms the basis for two possible housing scenarios. One scenario is that future housing construction will be consistent with the projected proportion of families in shared accommodations. A second scenario is that enough housing will be built to allow each of the families who are sharing accommodations to have separate dwelling units.

Figure 71 shows the growth in dwelling units on reserves from 1990 through 1995, as well as possible growth in numbers of dwelling units based on Nault and Chen's projections under two construction scenarios. The first scenario suggests that there will need to be a net increase of about 14,000 units between 1995 and 2000, and a net increase of 25,000 units between 2000 and 2010. The second scenario forecasts net increases of about 16,000 units between 1995 and 2000, and 30,000 units between 2000 and 2010.

These trends may also be viewed in terms of numbers of new units built per year. Because some of the existing housing stock needs to be replaced each year, the number of new dwelling units constructed would have to be larger than the net growth in the housing stock. Using departmental data on annual construction and total housing stock over the 1990-95 period, a ratio of about 1.25 was identified, meaning that 125 new units need to be built each year to increase the total housing stock by 100 units. This ratio was then applied to the two scenarios to identify annual construction scenarios as shown in Figure 72. Table 8 provides a summary of the historic and forecast average number of new units to be built per year for each period.

Figure 71

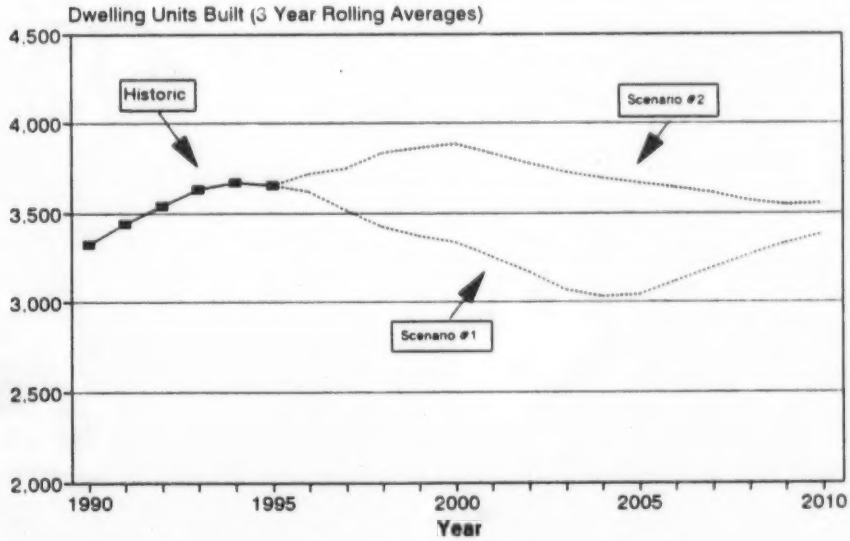
Projected Total Dwelling Units On Reserves
Under Two Construction Scenarios, Canada, 1990 - 2010



Sources: Basic Departmental Data, Indian and Northern Affairs Canada, 1995;
Francois Nault & Jiajian Chen, Household and Family Projections of Registered Indians, 1991-2015

Figure 72

Historic and Future On Reserve Housing Construction Trends
Under Two Construction Scenarios, Canada, 1990 - 2010



Sources: Basic Departmental Data, Indian and Northern Affairs Canada, 1995;
Francois Nault & Jiajian Chen, Household and Family Projections of Registered Indians, 1991-2015

It should be kept in mind that the departmental expenditures are intended to be contributions or subsidies per housing unit rather than the full cost of housing construction. Additional financing for housing construction may be provided by individuals, bands or other sources (such as Canada Mortgage and Housing Corporation).

Table 8

Historic and Forecast Average Units to be Built Per Year On Reserves Under Two Construction Scenarios, Canada, 1990 - 2010

Scenario	Time Period		
	1990-1995	1996-2000	2001-2010
#1	3,670	3,415	3,158
#2	3,670	3,936	3,597

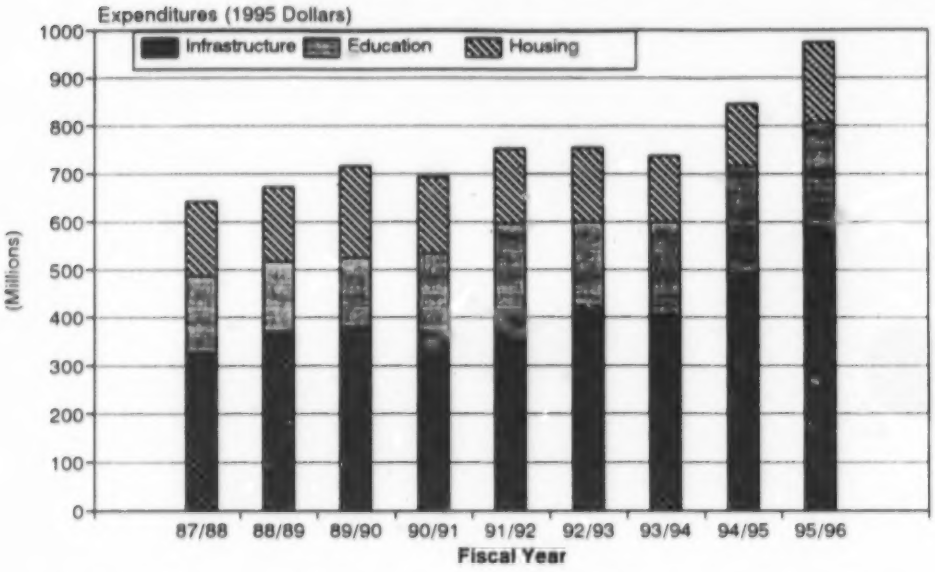
4.5 Community Infrastructure

Community capital expenditures may be considered in three categories: education capital (schools), housing, and other infrastructure such as administrative and recreational buildings, health centres, roads, sewer, water and electric systems, and other facilities. The various community facilities are driven by different aspects of demographic change. The housing component has been described above, and is driven by numbers of households. The need for school buildings is driven by change in elementary and secondary school enrolments (also considered above). Other facilities may be primarily related to services to households or they may be related to services to individuals and groups. In the former case, demand would be related to growth in households, while in the latter case demand would be related to growth in the population.

Data on the three major categories of community capital expenditures by the department were obtained for the 1987-1996 period. (See Figure 73.) Total capital spending increased from about $640 million in 1987/88 to about $975 million in 1995/96 (in 1995 dollars), an increase of more than 50 percent. The "Infrastructure" component (other than education and housing) has increased as a proportion of the total, from about 50 percent in 1987/88 to about 60 percent in 1995/96.

Figure 73

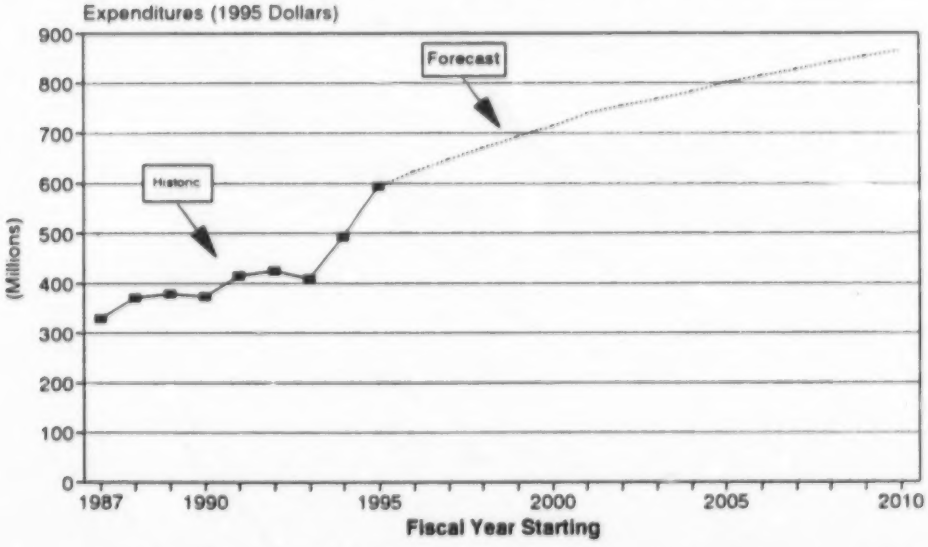
Indian & Inuit Affairs Program, Capital Expenditures By Major Component
In 1995 Dollars, Canada, 1987 - 1996



Source: Data provided by Financial Analysis and Program Review, Indian and Northern Affairs Canada

Figure 74

Indian & Inuit Affairs Program, Infrastructure Expenditures and Forecast
In 1995 Dollars, Canada, 1987 - 2010
(Excludes Housing and Education Capital)



Source: Data provided by Financial Analysis and Program Review, Indian and Northern Affairs Canada
Note: Forecast assumes no change in real percapita expenditures from 1995-96 level.

Infrastructure expenditures per person living on reserves were calculated for the period from 1987/88 through 1995/96. These per capita expenditures increased by 47 percent over this time period from $1,443 per person to $2,123 per person (in 1995 dollars). Assuming that real per capita expenditures remain at the 1995-96 level of $2,123, population growth would be expected to result in an increase in annual infrastructure expenditures from almost $600 million in 1995/96 to $715 million in 2000/01 and to $865 million in 2010 (in 1995 dollars). (See Figure 74.)

4.6 Local Economy

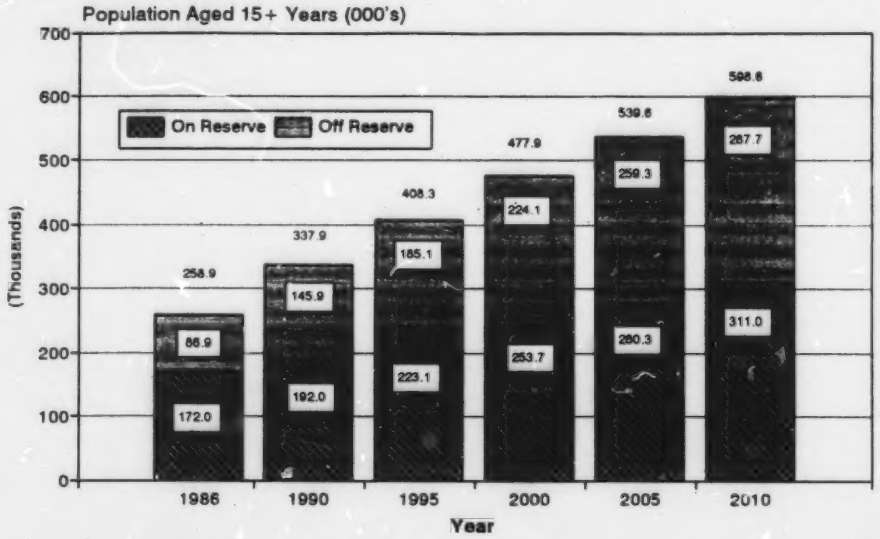
The registered Indian working age population has grown rapidly over the period from 1986 through 1995 and is expected to continue to grow both on and off reserve. (See Figure 75.) The annual growth rate has been highest among the off-reserve population, particularly in the 1986-1990 period. The high growth rate during this period reflects the addition of individuals registered under Bill C-31 during this time period, especially among the off-reserve population. As shown in Figure 76 the annual growth rate among the off-reserve adult population was more than 12 percent during the 1986-1990 time period, after which it fell rapidly. The population 15 years or older is expected to continue growing at an annual rate of about 2.6 percent on reserves between 1995 and 2000, and at a rate of about 3.8 percent off reserves during this period. During the subsequent period (2000-2010) growth rates are expected to fall to about 2.1 percent annually among both groups.

On-reserve labour force population growth is expected to be most rapid in the prairie region in the short and medium term, particularly in Saskatchewan and Alberta. The working age population on reserves is expected to grow less quickly in Quebec, Ontario and British Columbia. (See Figure 77.) This will mean that over the next 15 years Manitoba, Saskatchewan and Alberta will each see the on-reserve working age population (15 or older) grow by more than 16,000, while in Ontario it will increase by just under 14,000. Each of these provinces is expected to experience an increase of more than 5,000 in the on-reserve labour force population between 1995 and 2000. (See Figure 78.)

The greatest growth among the off-reserve registered Indian labour force will take place in Ontario, where this population is expected to increase by almost 11,000 between 1995 and 2000, and by another 16,000 between 2000 and 2010. Saskatchewan, British Columbia and Manitoba are also expected to have substantial growth in the off-reserve labour force, although much less than in Ontario. (See Figure 79.)

Figure 75

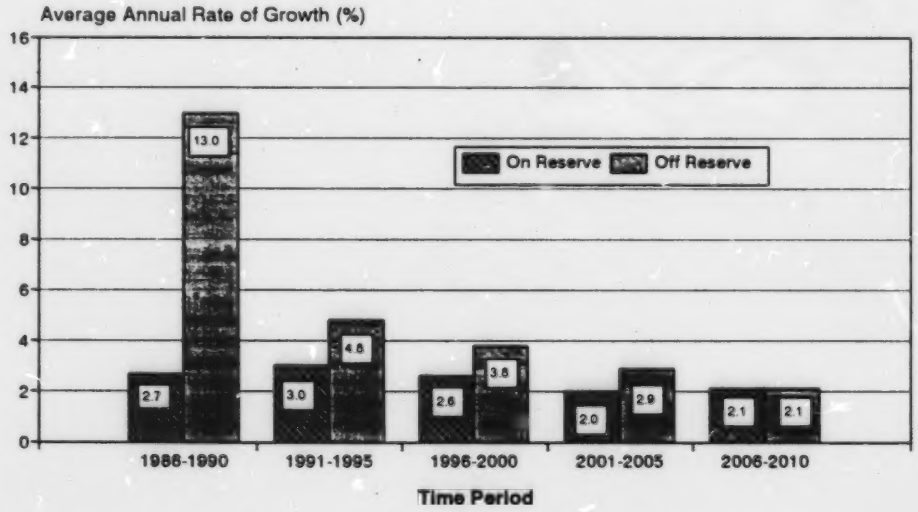
Registered Indian Population Aged 15+ Years by Location of Residence, Canada, 1986 - 2010



Source: 1986 estimates derived from Loh (1990)
Estimates for 1990 and subsequent years from Nault et al (1993)

Figure 76

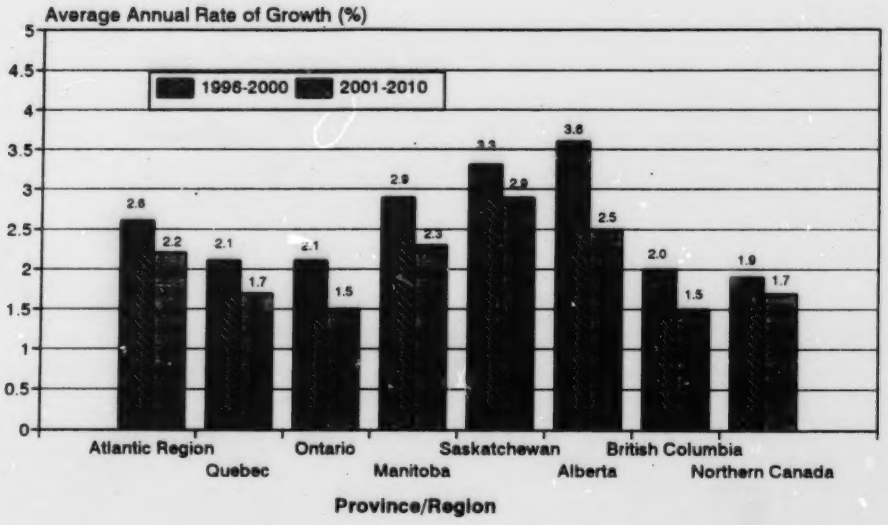
Estimated Average Annual Growth Rate of Registered Indian Population Aged 15+ Years Residing On and Off Reserve, Canada, 1986 - 2010



Source: Derived from population projections prepared by Nault et al (1993), medium growth scenario.
Data adjusted for late reporting.

Figure 77

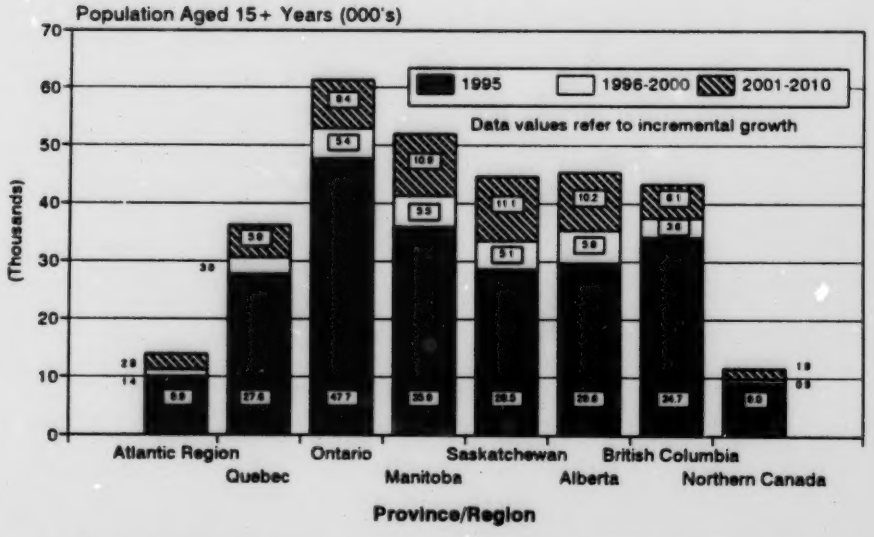
Projected Average Annual Growth Rates Among Registered Indian Population Aged 15+ Years Residing On Reserve by Province/Region, Canada, 1996-2001 and 2001-2010



Source: Derived from population projections prepared by Nault et al (1993), medium growth scenario.

Figure 78

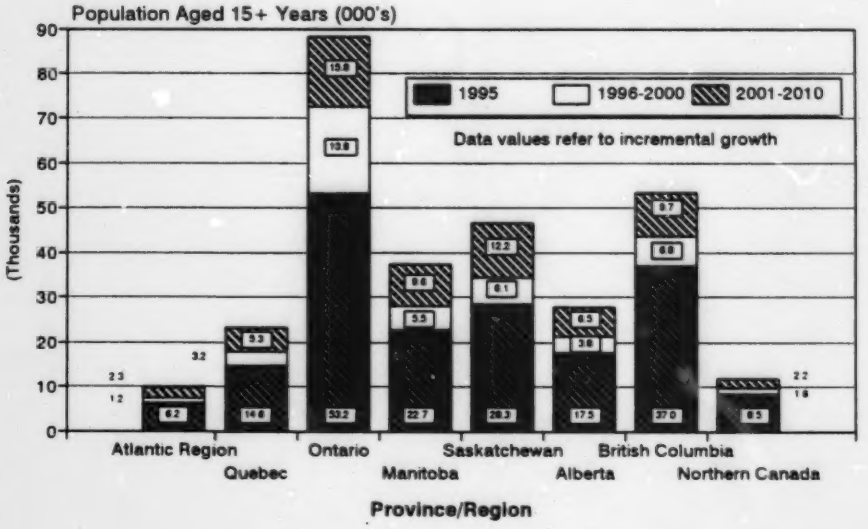
Registered Indian Population Aged 15+ Years Residing On Reserve, by Province/Region, Canada, 1995 - 2010 (Projected)



Source: Derived from population projections prepared by Nault et al (1993), medium growth scenario.

Figure 79

Registered Indian Population Aged 15+ Years Residing Off Reserve, by Province/Region, Canada, 1995 - 2010 (Projected)



Source: Derived from population projections prepared by Nault et al (1993), medium growth scenario.

These figures indicate that, in order to improve or even maintain current registered Indian employment levels, there will need to be substantial employment growth on reserves. A comparison of 1981 and 1991 employment among registered Indians shows no change in overall employment rates over this time period. (See Table 9.) While the employment rate off-reserve declined, both the on-reserve and total employment rates remained the same. Therefore, employment growth among the registered Indian population was able to keep pace with population growth over the ten year period.

Table 9

Employment Rates Among the Registered Indian Population 15+ By On/Off Reserve Location, Canada, 1981 and 1991

Location	Time Period	
	1981	1991
On-Reserve	32%	32%
Off-Reserve	47%	43%
Total	38%	38%

Sources: Nicholson and Macmillan, 1986, page 64; Customized 1991 Census tabulations prepared for Indian and Northern Affairs Canada.

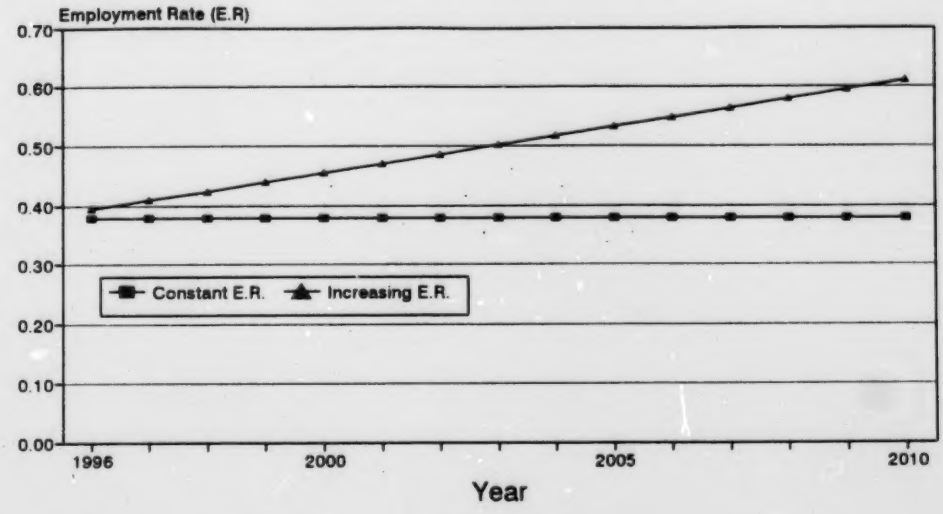
In order to assess the prospects for future employment among the registered Indian population, two employment rate scenarios have been considered. (See Figure 80.) The first assumes that the employment rate will continue at its current level of 38 percent over the 15 year projection period. The second assumes that the employment rate among registered Indians will increase at a steady rate over this period until it reaches the 1991 Canadian average employment rate of about 61 percent by the year 2010.

As shown in Figure 81, given expected population growth, the first of these scenarios would mean that the number of registered Indians who are employed will have to increase by 4,000 to 6,000 each year. If the second scenario is followed, there would have to be an increase in the number employed from 10,000 to 18,000 per year. The regional on and off-reserve implications of these two scenarios for the 1996-2000 and 2001-2010 time periods are shown in Figures 82 through 85 and in Table 10. (More detailed figures for each region are provided in Appendix C.)

Figure 80

Two Employment Rate Scenarios for the Registered Indian Population 15+

Canada, 1996-2010



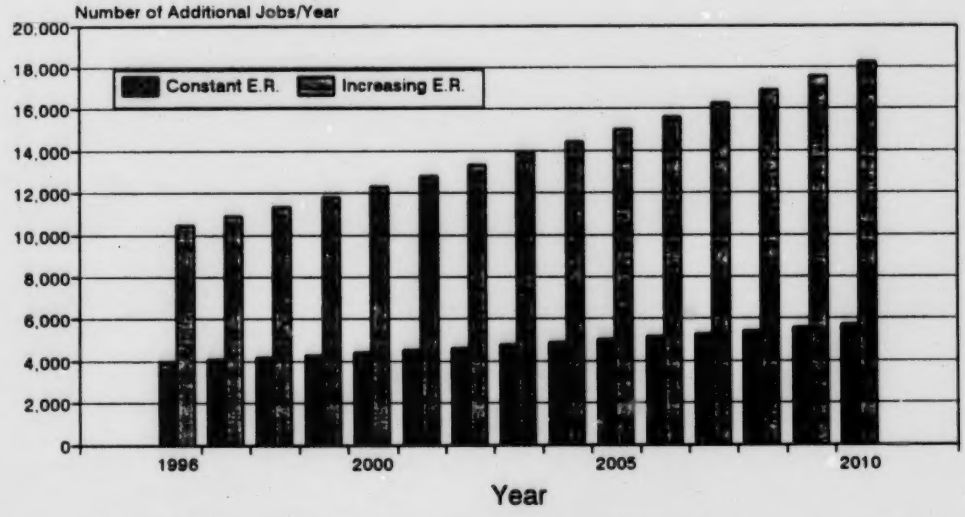
Source: 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population 15+).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes the rate will rise to equal the 1991 Canadian employment rate by 2010.

Figure 81

Annual Job Growth Required to Achieve Two Employment Rate Scenarios

Among the Registered Indian Population 15+, Canada, 1996-2010

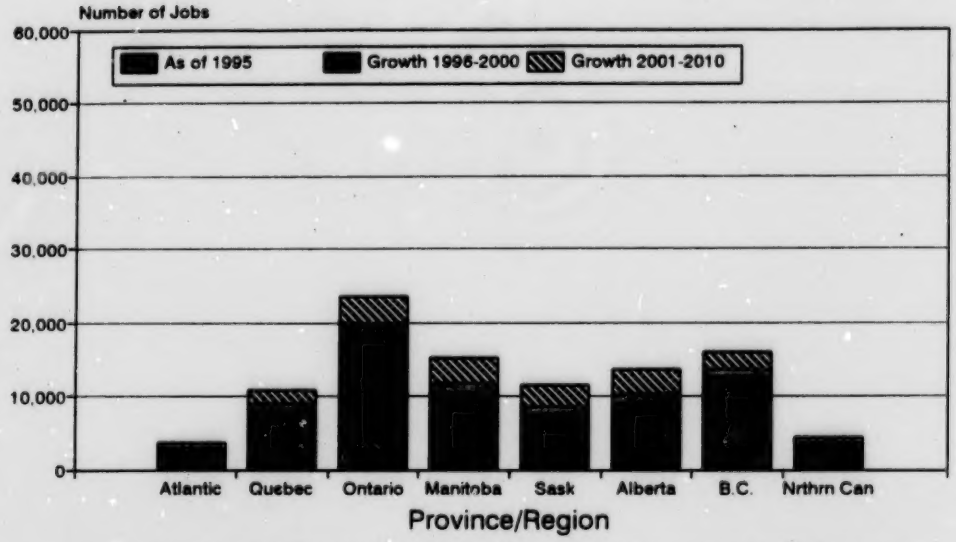


Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes the rate will rise to equal the 1991 Canadian employment rate by 2010.

Figure 82

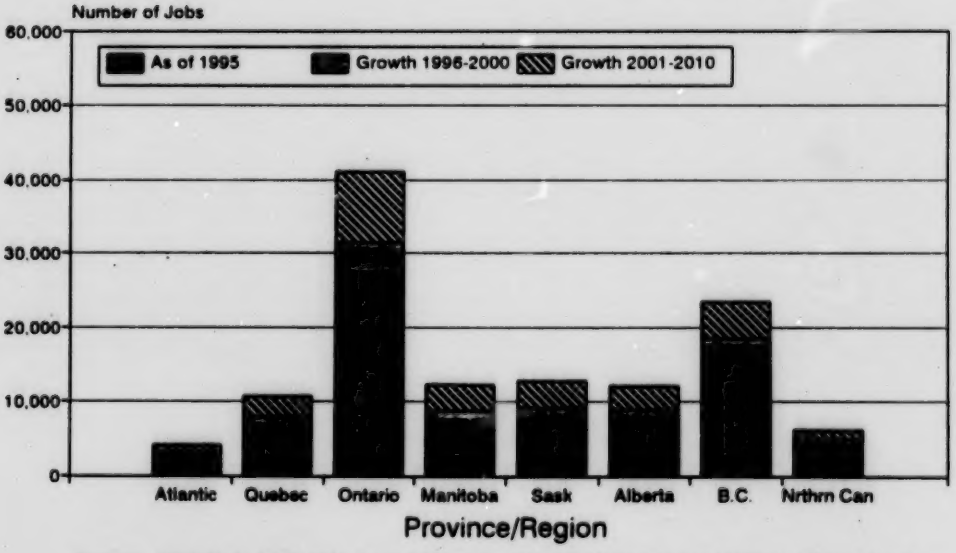
Estimated Number of Jobs Required to Maintain 1991 Employment Rate Among the Registered Indian Population 15+ Living On-Reserve By Province/Region, 1996-2010



Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Figure 83

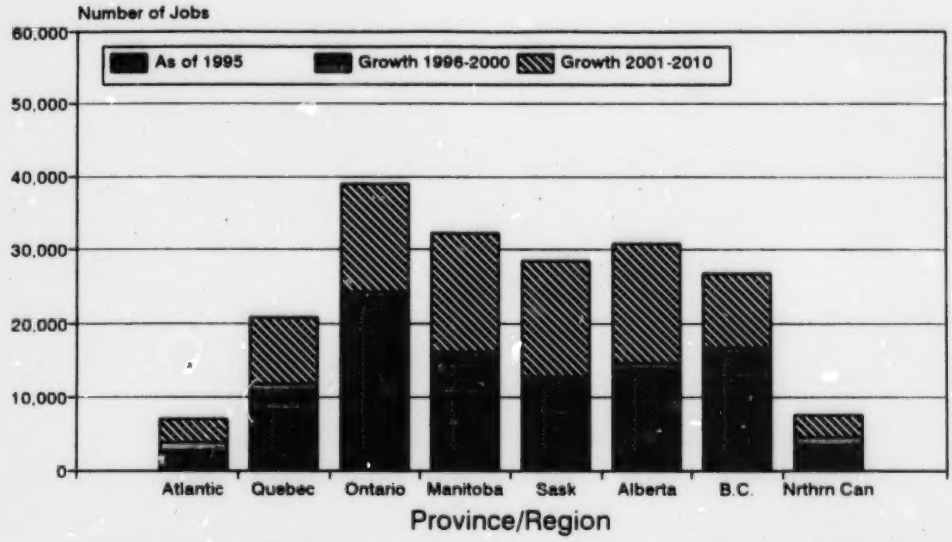
Estimated Number of Jobs Required to Maintain 1991 Employment Rate Among the Registered Indian Population 15+ Living Off-Reserve By Province/Region, 1996-2010



Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Figure 84

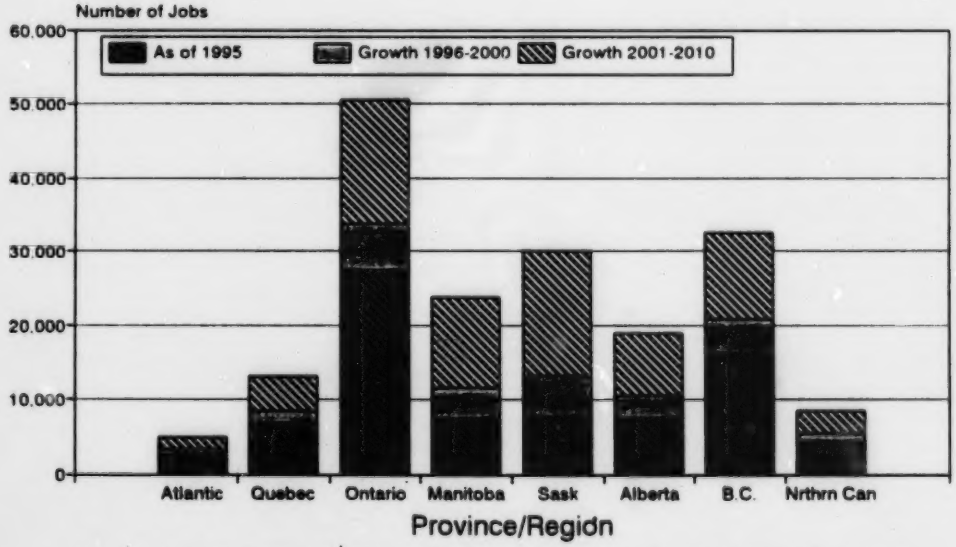
Estimated Number of Jobs Required to Achieve 1991 Provincial/Regional Employment Rate Among the Registered Indian Population 15+ Living On-Reserve By Province/Region, 1996-2010



Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Figure 85

Estimated Number of Jobs Required to Achieve 1991 Provincial/Regional Employment Rate Among the Registered Indian Population 15+ Living Off-Reserve By Province/Region, 1996-2010



Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Table 10

Estimated Number of Jobs Required to Maintain or Increase Employment Rates Among Registered Indians, 15+, By Province/Region and On/Off-Reserve Residency, 1996-2010

Province/Region	Constant E.R. Assumption			Increasing E.R. Assumption		
	On-Reserve	Off-Reserve	Total	On-Reserve	Off-Reserve	Total
			Estimated Number Employed in 1995			
Atlantic	2,754	2,717	5,472	2,754	2,717	5,472
Quebec	8,294	6,803	15,097	8,294	6,803	15,097
Ontario	18,375	27,480	45,855	18,375	27,480	45,855
Manitoba	10,485	7,509	17,994	10,485	7,509	17,994
Sask	7,417	7,821	15,238	7,417	7,821	15,238
Alberta	8,985	7,650	16,634	8,985	7,650	16,634
B.C.	12,702	16,271	28,973	12,702	16,271	28,973
Nrthrn Can	3,479	4,348	7,828	3,479	4,348	7,828
Canada Total	72,491	80,599	153,090	72,491	80,599	153,090
			Estimated Additional Jobs Required, 1996-2000			
Atlantic	342	439	781	1,248	649	1,897
Quebec	807	1,135	1,943	3,568	1,736	5,304
Ontario	1,624	3,972	5,596	5,970	6,406	12,375
Manitoba	1,401	1,394	2,796	5,866	4,075	9,941
Saskatchewan	1,202	1,416	2,618	5,368	5,543	10,911
Alberta	1,389	1,275	2,664	5,689	2,963	8,652
B.C.	1,080	2,129	3,210	4,105	4,499	8,604
Northern Can.	324	561	885	1,246	1,131	2,377
Canada Total	8,170	12,322	20,492	33,060	27,002	60,062
			Estimated Additional Jobs Required, 2001-2010			
Atlantic	817	1,102	1,919	3,347	1,742	5,088
Quebec	1,858	2,871	4,729	9,070	4,723	13,794
Ontario	3,691	9,750	13,441	14,789	16,880	31,669
Manitoba	3,390	3,613	7,003	16,138	12,239	28,377
Saskatchewan	3,020	3,646	6,666	15,731	16,789	32,520
Alberta	3,456	3,223	6,679	16,352	8,428	24,780
B.C.	2,444	5,131	7,575	10,104	11,853	21,956
Northern Can.	741	1,349	2,090	3,124	2,959	6,083
Canada Total	19,418	30,685	50,102	88,655	75,612	164,268

E.R. = Employment Rate (number employed/population 15+)
Constant E.R. assumes 1991 Reg. Indian E.R. will be maintained through 2010.
Increasing E.R. assumes Reg. Indian E.R. will increase so as to equal the 1991 provincial/regional E.R. by 2010.

Sources: Nault et. al., 1993; 1991 Census tabulations prepared for Indian and Northern Affairs Canada.

During the 1980s and 1990s, much of the increase in registered Indian employment was due to growth in public sector employment. As of 1991, 29 percent of the employed registered Indian population in Canada was in the government services sector, while another 18 percent was in the education and health services sectors. At that time, employed registered Indians were almost four times as likely to be employed in government services as other employed Canadians.[1] It seems unlikely that public sector employment will continue to grow at a rate sufficient to provide employment opportunities of the magnitude indicated in the figures.

In order to assess the magnitude of the job creation challenge on reserves, on-reserve job creation was estimated for the 1980-1990 period.[2] It is estimated that over the decade, on-reserve employment among registered Indians grew by about 17,700, or 1,770 per year. Based on Table 10, during the 1996-2000 period an average of about 1,630 jobs would need to be created on reserves across Canada in order to maintain the 1991 employment rate, slightly lower than the estimated job growth per year in the 1980s. During the following ten-year period (2001-2010) on-reserve job growth would need to be somewhat higher to maintain the 1991 employment rate, about 1,940 per year. On the other hand, if the goal is to achieve the average Canadian employment rate on reserves, annual employment growth will need to average about 6,600 during the 1996-2000 period, and about 8,870 during the 2001-2010 period, in the range of four to five times the rate of job growth during the 1980s.

4.7 Political/Social Fabric

A number of the demographic trends described in this study are likely to have implications for the social and political fabric of First Nations communities. In general, the nature of social and political change makes it difficult to document, however the findings presented above concerning trends in eligibility for registered Indian status and First Nation membership point to major social and political issues for First Nations as well as federal and provincial governments.

The combination of the provisions of the revised Indian Act (Bill C-31) and the First Nation membership codes, enabled by Bill C-31 and passed by various First Nations, can create a variety of outcomes. There are now two classes of Indians under the Indian Act. Those registered under section 6(1) have greater ability to

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1. Derived from Clatworthy et. al., 1995, pages 130, 134 & 135.

2. For this estimate the employment rates from the 1981 and 1991 Censuses were applied to the adjusted Indian Register population 15+ living on reserve or Crown land in 1980 and 1990. This procedure could not be used for the off-reserve population because of the large impact of new registrations under Bill C-31 during the time period.

pass registered Indian status on to their children than those registered under section 6(2) of the Act. Over time, as inter-marriage takes place, the registered Indian population will stop growing, will become older, and will begin to decline in numbers. The speed with which this will happen will depend on the rate of inter-marriage with non-Indians.

At the same time, First Nations have adopted a variety of membership codes which can determine membership rights, such as the right to vote or run for Council, independently from Indian status. There is a variety of such codes, ranging from more restrictive codes requiring that both parents are members (the "two parent rule") to less restrictive codes requiring that only one parent needs to be a member (the "one parent rule"). Because membership and Indian status are now determined independently, it is possible for an individual to have Indian status but not be a member of a First Nation, or to be a member without Indian status. Therefore, the future descendants of the current registered Indian population will fall into four groups, as shown in Table 11.

Table 11

Population Groups Among Descendants of Registered Indians As Determined by the 1985 Indian Act and First Nation Membership Rules

Eligible for Indian Status	Eligible for First Nation Membership	
	Yes	No
Yes	Group I	Group II
No	Group III	Group IV

Under the one parent rule there will be a relatively large number in Group III who have the right to membership, but who do not have Indian status. This group will be able to exercise political rights, such as voting or running for Council, but will lack rights associated with having status, such as exemption from taxation or eligibility for non-insured health benefits.

Under more restrictive membership codes, such as the two parent rule, there will be a relatively large number in Group II; that is, there will be increasing numbers of people who have the rights associated with Indian status, but who do not have

political membership rights. Clatworthy and Smith (1992) estimated that, within 50 years, roughly one half of those with Indian status who are registered to First Nations with two parent codes will be disenfranchised in this sense.

It is easy to see that, as the First Nation population becomes increasingly sub-divided, social and political conflicts will emerge within First Nations communities and between First Nations and federal and provincial governments over service eligibility and funding. Moreover, it may be noted that membership rules have implications for the forms which Aboriginal self-government may take. For example, some membership codes deny membership to those living off-reserve. This seems at odds with some proposed forms of Aboriginal self-government which seek to unify the off-reserve and on-reserve Indian population within a common governmental structure.

The issue also affects federal government services and funding arrangements. As increasing numbers of non-Indian descendants of registered Indians are found to be living on reserves, the question of responsibility for provision of services for this population will become more pressing. Will the federal government provide funding to First Nations on the basis of the total community population, or on the basis of registered Indian population only? Will there be agreements between First Nations or the federal government and provincial governments for the provision and funding of services provided to non-Indians living on reserves?

5.0 Summary and Conclusions

The purpose of this report has been to provide an overview of recent trends in First Nations demography and an assessment of some of the main implications for First Nations communities and populations and the Department of Indian Affairs and Northern Development, which are expected to result from demographic changes in the short (1996-2000) and medium (2001-2010) terms. The study's main findings are summarized below:

Demographic Trends

- In spite of sharp declines in fertility, First Nations population residing both on and off reserve experienced high rates of population growth throughout the 1980-1995 period. Much of this growth occurred during the 1985-1990 period and resulted from the re-instatement and registration provisions of the 1985 Indian Act (Bill C-31). Although this factor will continue to contribute to First Nations population growth in both the short and medium terms, its contribution to future growth is expected to be greatly reduced.

- Declining fertility rates during the 1980-1995 period have not translated into reduced numbers of births. During this period, increases in the size of the population of child-bearing age more than offset the effects of lower fertility rates and contributed to increased numbers of births to First Nations populations. This trend is expected to be maintained throughout both the short and medium term futures.

- Net migration of First Nations population to large urban centres and back to reserves (and away from rural areas and small urban centres) was reported during the 1986-1991 period. This situation reflects a continuation of trends which have been occurring for more than two decades.

- Roughly 20 percent of the net migration of First Nations population to reserves during the 1986-1991 period was associated with individuals registered under Bill C-31. The vast majority of the Bill C-31 population residing on reserves in 1991, lived on reserve prior to gaining Indian status.

- Although a sizable proportion of First Nations populations relocated to a different community or province/region during the 1986-1991, migration during this period did not result in large net changes to the populations residing on or off reserve or in various provinces/regions. In relation to other factors, migration has played only a minor role with respect to changes in geographical distribution of First Nations population.

- Although rates of First Nations population growth are expected to decline throughout the 1996-2010 period, the population is expected to increase by about 83,600 individuals by the year 2000 and by an additional 135,900 individuals during the 2001-2010 period. Roughly 44 percent of the forecast population increase is expected to occur on reserves. In relation to other provinces/ regions, population increases are expected to be most pronounced in the prairie provinces.

- During the 1981-1995 period, the number of First Nations households increased by roughly 152 percent. Although much of this growth was focused off reserve, First Nations reserves also experienced high rates of household growth during the period. Although rates of rates of household growth are expected to decline in both on- and off-reserve contexts, an additional 121,000 First Nations households are expected by the year 2010.

- Continued fertility rate declines, in concert with reduced mortality rates are expected to result in modest shifts in First Nations populations to older age cohorts during the short and medium term futures. Nevertheless, the First Nations reserve populations are expected to retain a *youthful* character, one where younger age cohorts continue to form larger segments of the population. Shifts in the off-reserve population to older age cohorts are expected to be of similar magnitude to those on-reserve during the 1996-2010 period.

- As of 1995, changes to the rules governing entitlement to Indian status (Bill C-31) have had only minor impacts on First Nations demography. It is estimated that at that time, roughly 14,000 children born to registered Indians (about 10 percent of births between 1985 and 1995) lacked entitlement to status as a consequence of the new rules. Most of these children resided off-reserve. The number of off-spring who will lack entitlement for registration is expected to grow (at an increasing rate) throughout the 1996-2010 period. By the 2005-2010 period, it is estimated that 18 percent of the children born to registered Indians will not be entitled to status under the Indian Act.

- More than forty percent of First Nations adopted their rules governing entitlement to band membership. With few exceptions, these rules are expected to create "classes of citizens" within First Nations communities with differing rights and entitlements. Although the population implications of these rules are presently small, a majority of First Nations appear to be at risk of disqualifying large numbers of future generations from band membership.

Health Implications

- There is substantial use of health services among the registered Indian population, both in reserve and non-reserve communities. Use of health services is somewhat greater off-reserve than on and is much higher among those over 55 years of age than among the younger population.

- The prevalence of a number of health problems appears to be greater on reserves than off reserves, in particular diabetes, high blood pressure, heart problems and tuberculosis. Prevalence of obstructive lung disease is greater off-reserve.

- The number of registered Indian adults affected by diabetes is expected to increase from its 1995 level of about 30,000 to more than 50,000 by the year 2010 because of population growth and aging. Although data were not available on which to base projections, other health conditions which are more common among the older population may experience similar increases.

- Based on current level of demand for non-insured health benefits, the number of pharmacy services provided per year is expected to increase by more than 50 percent over the next 15 years, and the number of dental services provided per year is expected to increase by 32 percent. Annual expenditures for pharmacy benefits are projected to increase by 56 percent (in 1995 dollars) and annual expenditures for dental benefits are projected to increase by 37 percent over the same time period.

- The demand for non-insured health care services varies greatly from province to province, apparently as a consequence of differences in provincial health insurance coverage. Changes in the criteria and benefits of either the various provincial health insurance programs or the federal non-insured health benefits program will affect future demand and expenditures under the federal program.

Social Welfare Implications

- Although the on-reserve employment rate stayed at about 32 percent during the decade from 1980 to 1990, the social assistance dependency rate increased slightly and continued to increase into the 1990s. This trend suggests that the social assistance dependency rate could rise from its current level of about 45 percent of the on-reserve population to about 50 percent in 2001 and to about 57 percent in 2010.

- Increasing social assistance dependency rates combined with increasing populations on reserves have led to rapid growth in the number of social assistance beneficiaries. Based on forecast trends in these factors, the number of beneficiaries on reserves is expected to increase from its current level of about 150,000 beneficiaries to about 250,000 beneficiaries in the year 2010.

- There are wide regional variations in the forecast growth in social assistance dependency rates. The highest dependency rates are found in the Atlantic region and in the western provinces, particularly Saskatchewan and Manitoba.

- There are also large regional variations in the forecast number of social assistance beneficiaries. Alberta is expected to see by far the largest increase in beneficiaries over the next 15 years, followed by Saskatchewan and Manitoba.

- Between 1981 and 1986 the proportion of children in care among the on-reserve population declined, after which it stabilized at about 4 percent of children 0-15 years old. Assuming that it remains at this level, the number of children in care on reserves is expected to grow slowly along with the population growth in this age group.

- Expenditures per registered Indian child in care, however, have increased dramatically over the past 15 years (in 1995 dollars). If the real expenditures per child continue to increase, the expected modest growth in the number of children in care will lead to very rapid growth in expenditures in future years.

Educational Implications

- Given current trends, the number of on-reserve children attending elementary or secondary schools is expected to increase by 25,000 students over the next 15 years, an increase of about 24 percent.

- The bulk of the elementary/secondary enrolment growth is expected to occur in the three prairie provinces. They are expected to account for about 60 percent of the growth in enrolments between 1996 and 2000, and about 70 percent of the enrolment growth between 2001 and 2010.

- Registered Indian post-secondary students enrolments have grown rapidly over the 1981-1995 period. Post-secondary enrolment rates have also increased rapidly and are expected to continue to increase. When combined with the expected population growth, this will result in rapid growth in registered Indian post-secondary enrolments over the next 15 years. An increase of almost 10,000 students is projected for the 1995-2000 period, and an additional increase of 9,000 students is projected for the 2001-2010 period.

- Post-secondary expenditures per student (in 1995 dollars) have also been increasing. Assuming that this trend continues, total post-secondary expenditures are expected to increase from about $250 million in 1995 to $350 million in 2000 and $480 million in 2010 (in 1995 dollars).

Housing and Infrastructure Implications

- Based on projected numbers of households living on reserves and past rates of housing construction, annual demand for construction of new housing is expected to be similar to the annual construction in recent years. If it is assumed that households will continue to share housing, as projected by Nault et. al. (1993), it is expected that 3,400 housing units will need to be built per year during the 1996-2000 period, and 3,200 will need to be built per year during the 2001-2010 period. If enough housing is to be built to eliminate the sharing of dwellings by more than one family, these numbers increase to 3,900 per year and 3,600 per year for the respective time periods.

- Total capital spending by Indian and Northern Affairs increased from about $640 million in 1987/88 to about $975 million in 1995/96 (in 1995 dollars), an increase of more than 50 percent. Infrastructure, other than housing or education, has increased as a proportion of the total from 50 percent in 1987/88 to about 60 percent in 1995/96.

- Infrastructure expenditures per person living on reserve also increased by almost 50 percent during the 1987-1996 period. Assuming that per person expenditures remain at their 1995/96 level, population growth will result in an increase in annual expenditures of about $260 million (in 1995 dollars) over the next 15 years.

Implications for the Local Economy

- The employment rate among registered Indians was the same in 1991 as it was in 1981. In each of these years about 32 percent of the population 15 or older living on reserves was employed. During this period there was an increase of about 1,770 jobs per year among the on-reserve population.

- An average of about 1,630 jobs per year would need to be created on reserves across Canada in order to maintain the 1991 on-reserve employment rate, slightly lower than the estimated job growth per year in the 1980s. During the following ten-year period (2001-2010) on-reserve job growth would need to be somewhat higher to maintain the 1991 employment rate, about 1,940 jobs per year.

- If the goal is to achieve the average Canadian employment rate of about 61 percent, annual employment growth on reserves will need to average about 6,600 during the 1996-2000 period, and about 8,870 during the 2001-2010 period. These figures are about four to five times the rate of job growth during the 1980s.

Implications for the Social and Political Fabric of First Nations

- As a result of changes to the Indian Act in 1985 and membership codes enacted by First Nations, there are now several "classes" of Indians -- those who have both registered Indian status and membership in a band, those who are registered but do not have band membership, and those who have membership but are not entitled to be registered. There is also a group of descendants of registered Indians who are neither members of a band nor entitled to be registered.

- The size of these "classes" of Indians will depend on the size, marriage patterns, location and membership codes of individual First Nations. In some cases long term projections indicate that there will be substantial numbers of reserve residents who will not have membership rights, and in other cases the projections suggest that there will be substantial numbers who will not have Indian status. Those without membership status will not have voting rights, and in some reserve communities an increasing segment of the population will fall into this disenfranchised group.

- The division of First Nations populations into different classes is likely to lead to a range of issues, including legal challenges, internal conflicts, and intergovernmental disputes. If different reserve residents receive different services or have different entitlements this may lead to friction and splits in particular communities and calls for separate institutions or governance structures.

- The growth of these new divisions among First Nations will have implications for the form and administration of Aboriginal self-government. How will First Nations governments accommodate the various classes of reserve residents in the political process? What about the off-reserve population affiliated with the First Nation, both formally and through ancestry?

- Federal and provincial governments will also need to develop policies with respect to responsibilities for the provision and funding of services to the various on- and off-reserve Aboriginal populations. Will the federal/provincial split in responsibilities correspond to on- and off-reserve geography? Will cost-recovery agreements and mechanisms be put in place? How far does the federal responsibility for Aboriginal people extend? While Canadian governments have been dealing with these questions for years, the emergence of the new classes among the descendants of registered Indians complicates the issue and puts it in new terms.

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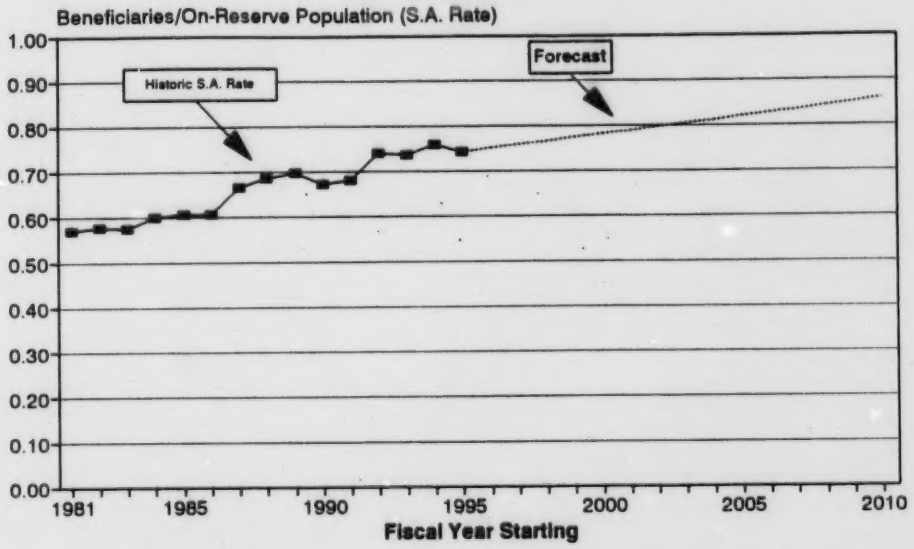
APPENDIX A: Regional Social Assistance Trends

Figure A-1

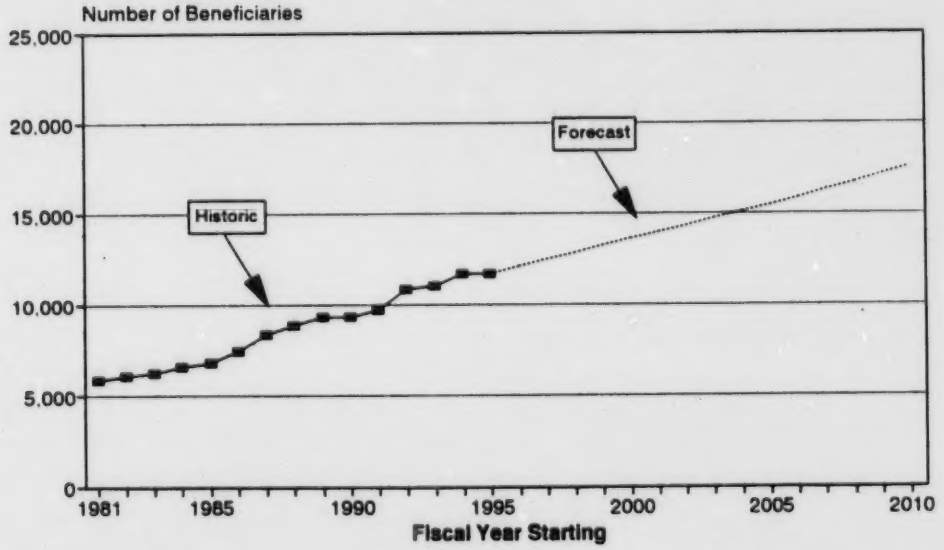
On-Reserve Social Assistance Rate Trend and Forecast
Atlantic Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-2

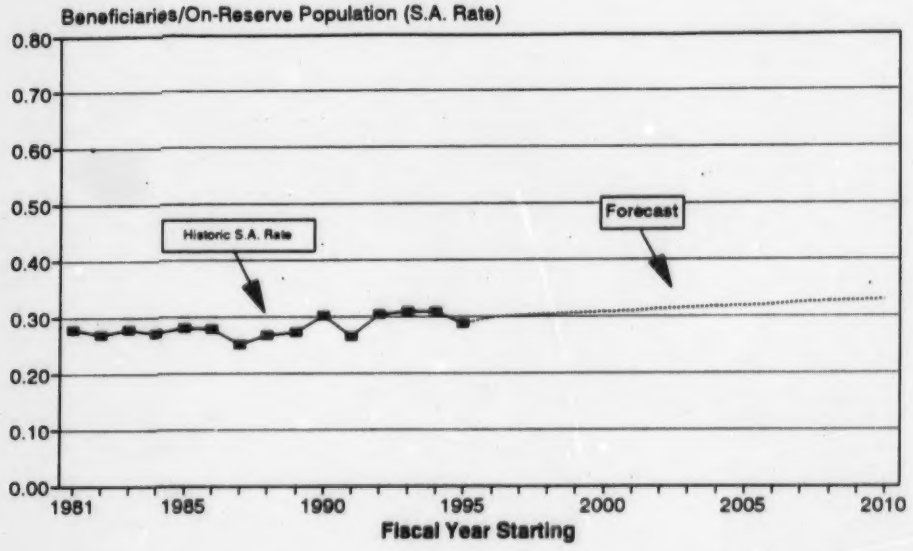
Historic and Forecast On-Reserve Social Assistance Beneficiaries
Atlantic Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-3

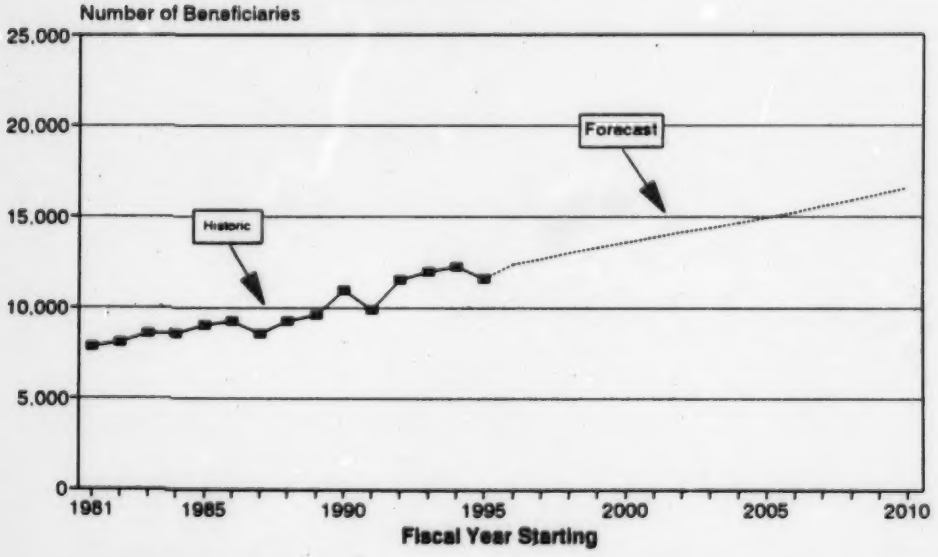
On-Reserve Social Assistance Rate Trend and Forecast
Quebec Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-4

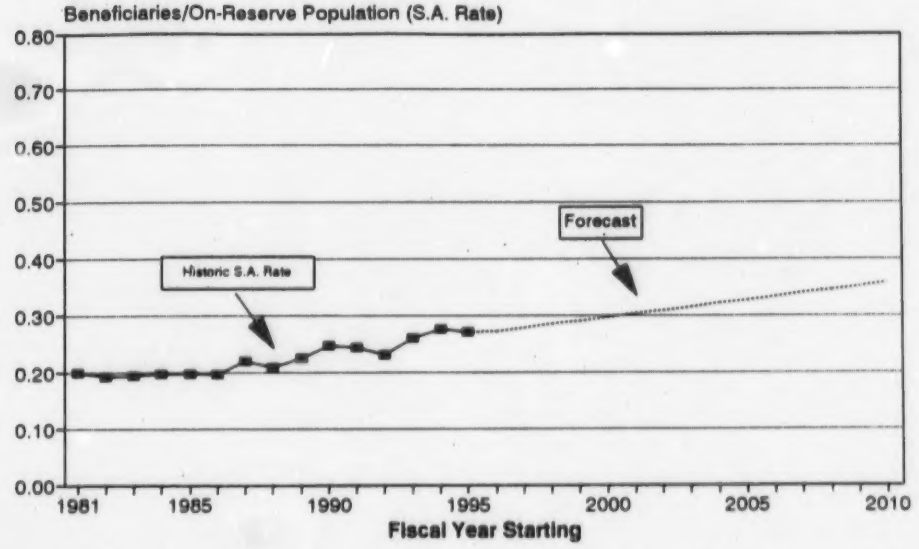
Historic and Forecast On-Reserve Social Assistance Beneficiaries
Quebec Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-5

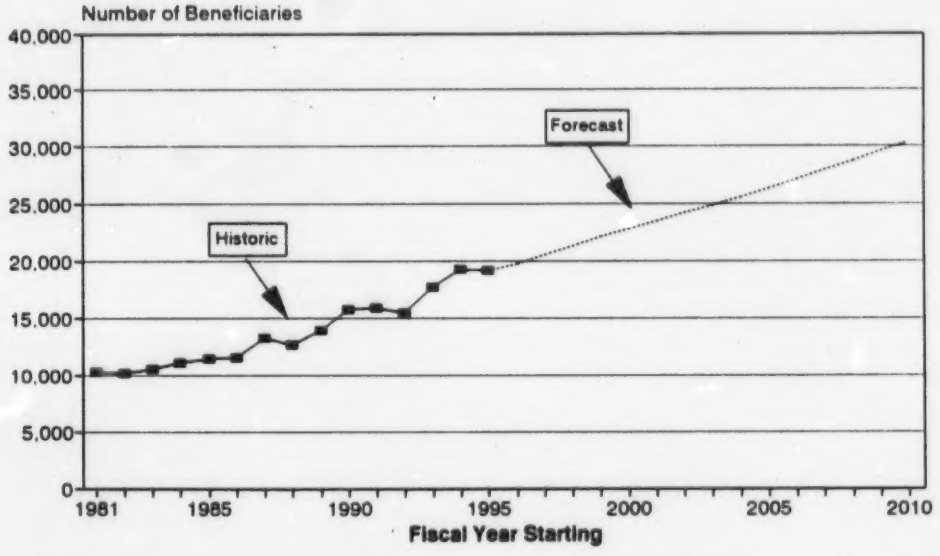
On-Reserve Social Assistance Rate Trend and Forecast
Ontario Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-6

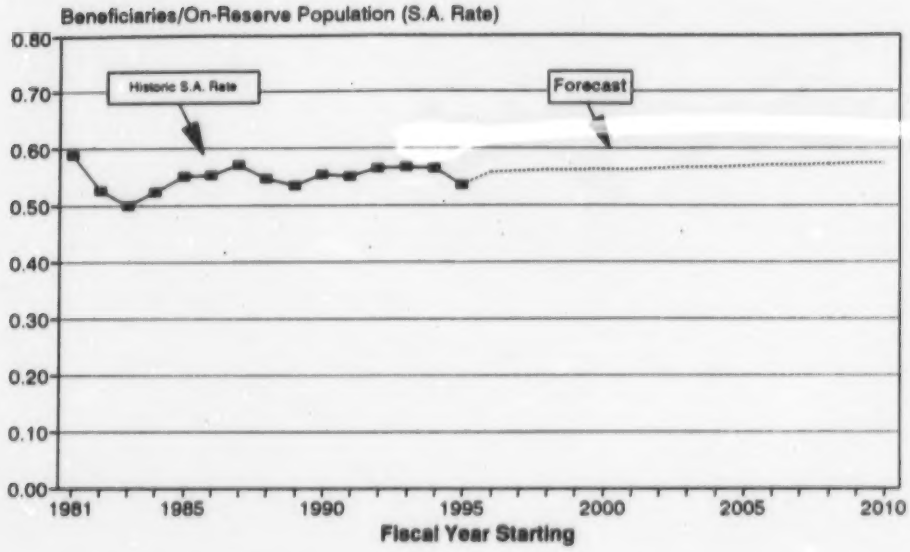
Historic and Forecast On-Reserve Social Assistance Beneficiaries
Ontario Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-7

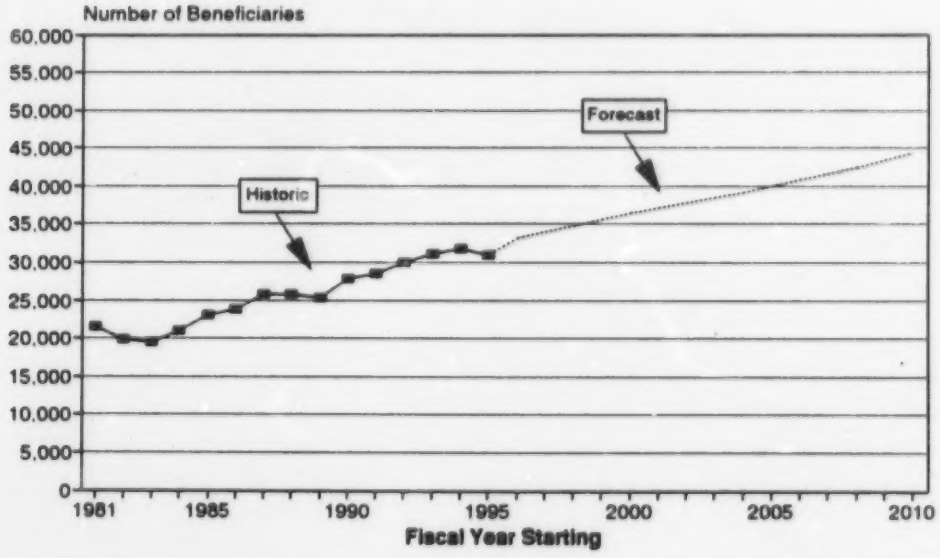
On-Reserve Social Assistance Rate Trend and Forecast
Manitoba Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-8

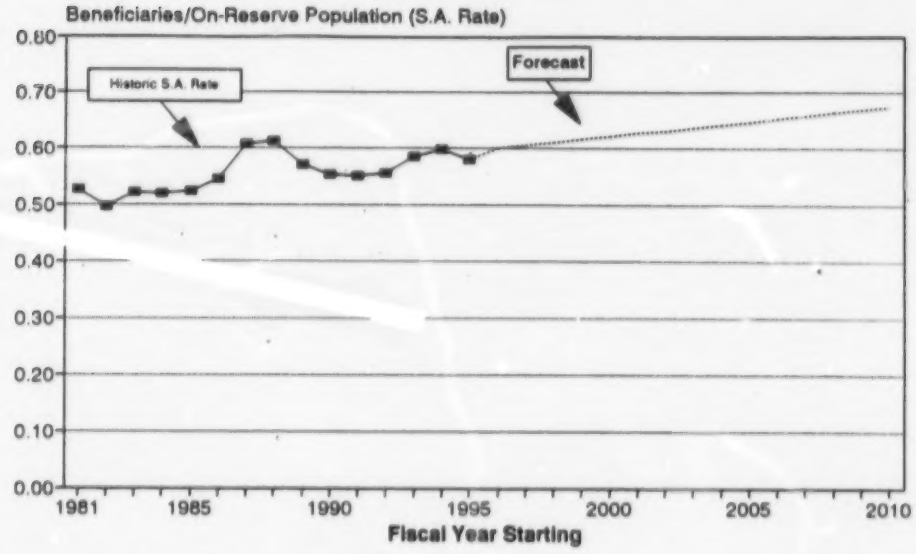
Historic and Forecast On-Reserve Social Assistance Beneficiaries
Manitoba Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-9

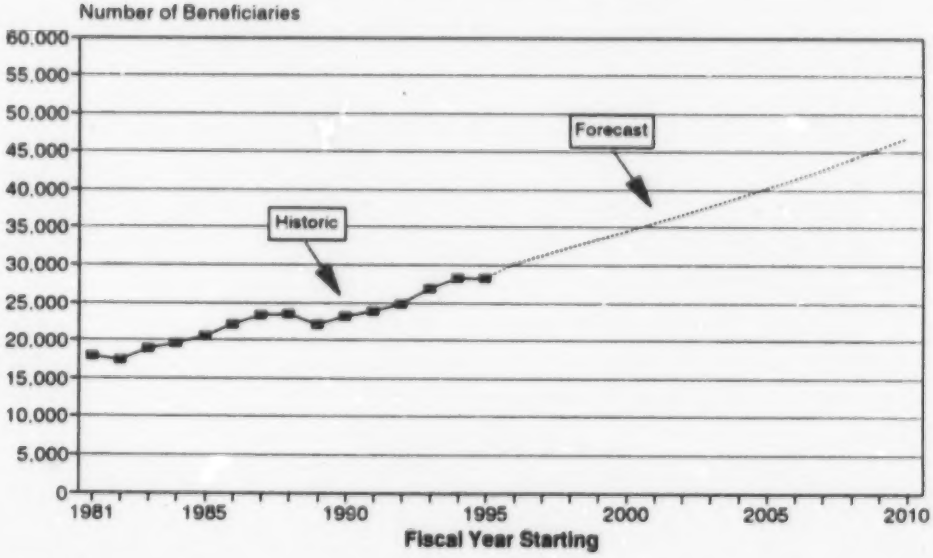
On-Reserve Social Assistance Rate Trend and Forecast
Saskatchewan Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-10

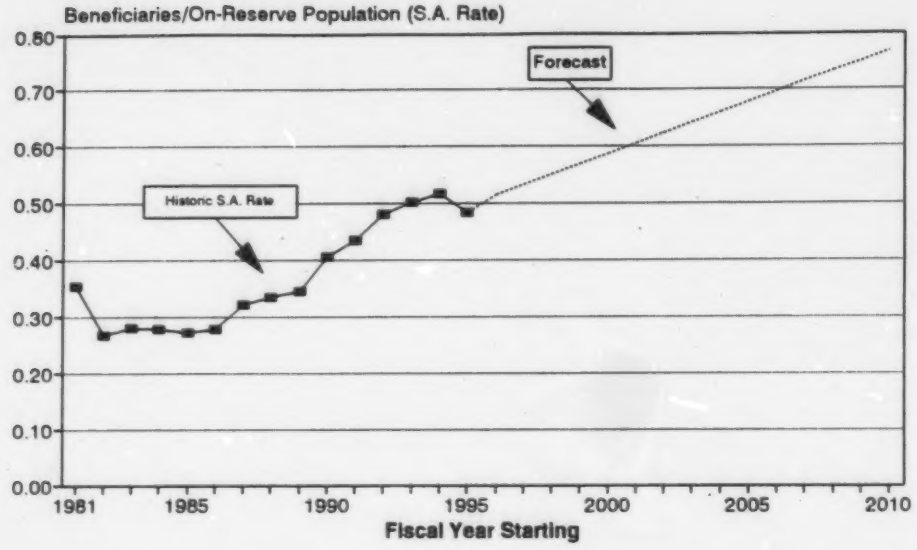
Historic and Forecast On-Reserve Social Assistance Beneficiaries
Saskatchewan Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-11

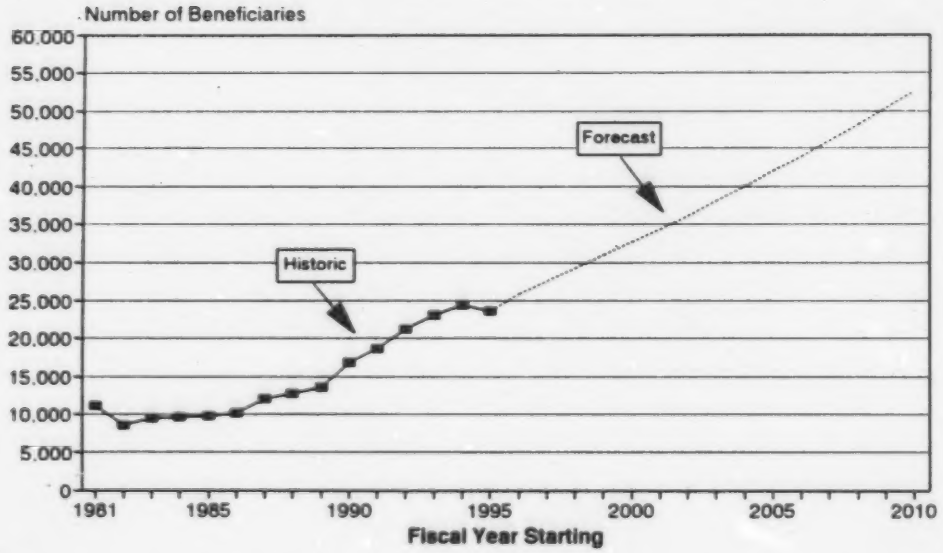
On-Reserve Social Assistance Rate Trend and Forecast
Alberta Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-12

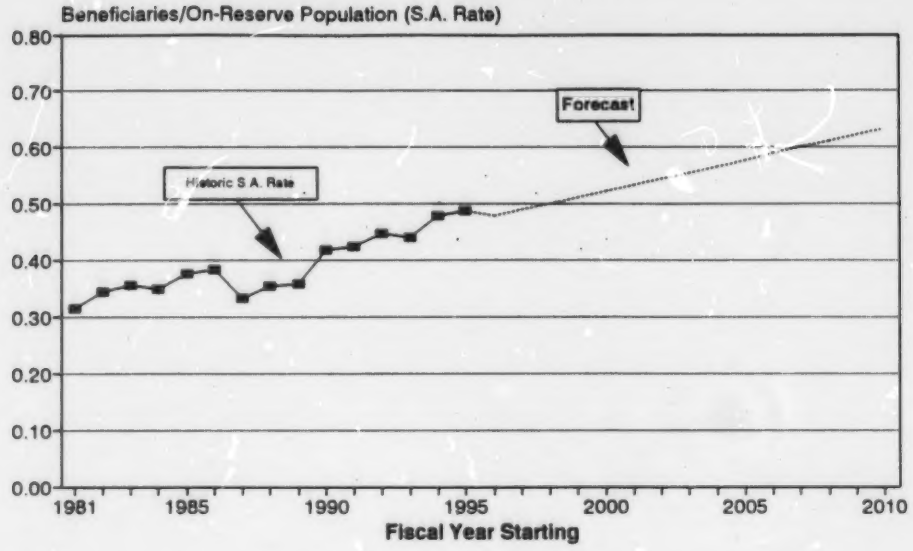
Historic and Forecast On-Reserve Social Assistance Beneficiaries
Alberta Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-13

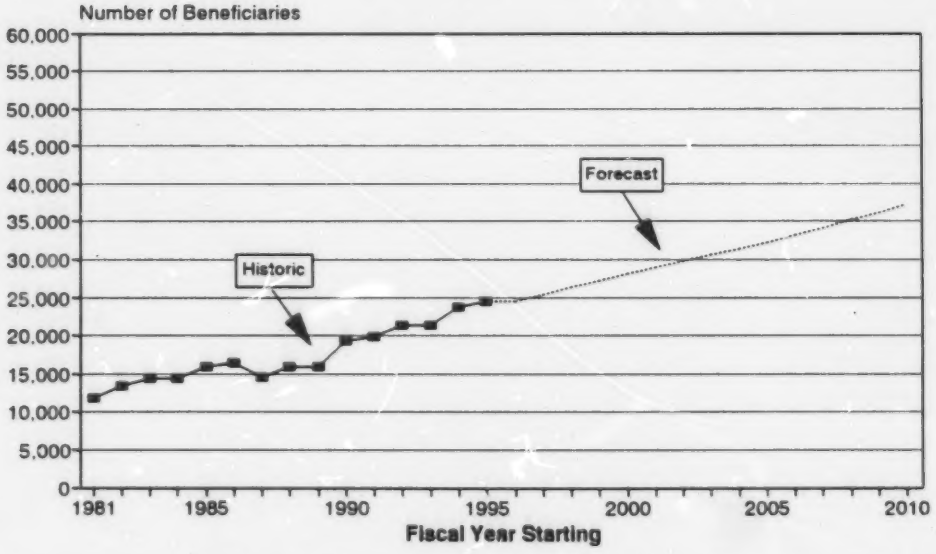
On-Reserve Social Assistance Rate Trend and Forecast
British Columbia Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-14

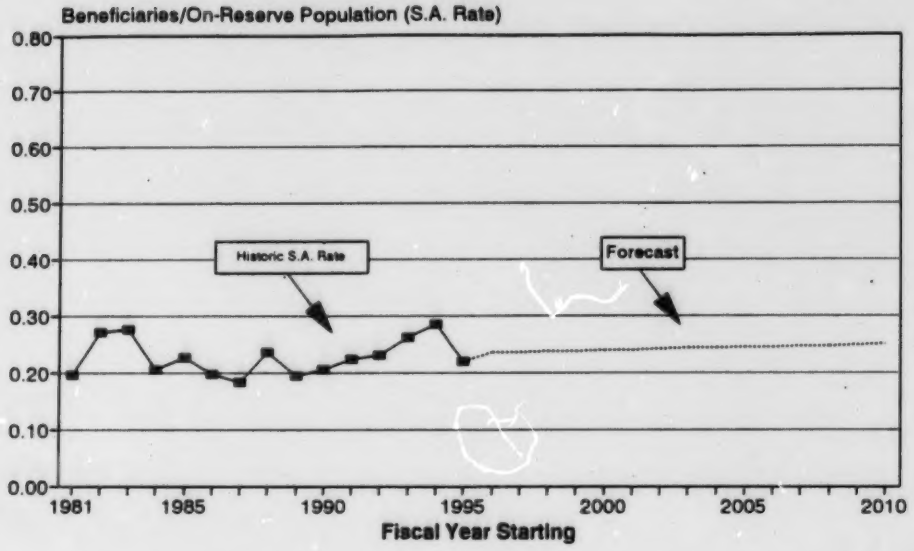
Historic and Forecast On-Reserve Social Assistance Beneficiaries
British Columbia Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-15

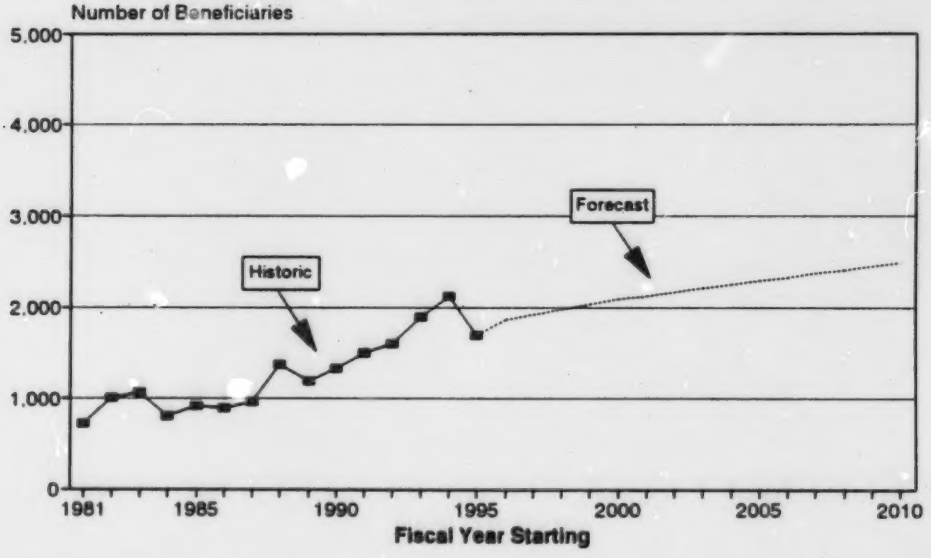
On-Reserve Social Assistance Rate Trend and Forecast
Yukon Region, 1981 - 2010



Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

Figure A-16

Historic and Forecast On-Reserve Social Assistance Beneficiaries
Yukon Region, 1981 - 2010

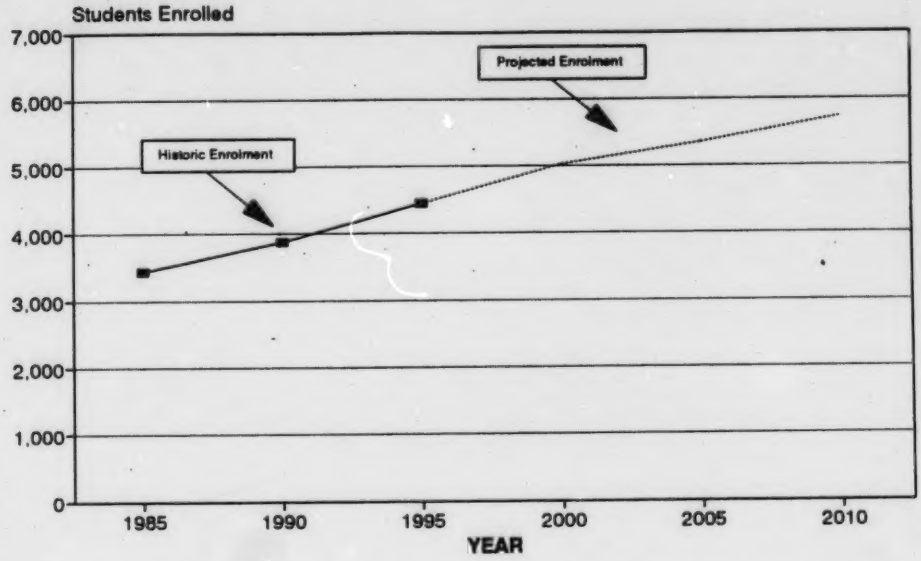


Sources: Chen et. al., Feb. 1994; Nault et. al., 1993; Indian and Northern Affairs Research and Analysis Directorate.

APPENDIX B: Regional Elementary/Secondary Enrolment Trends

Figure B-1

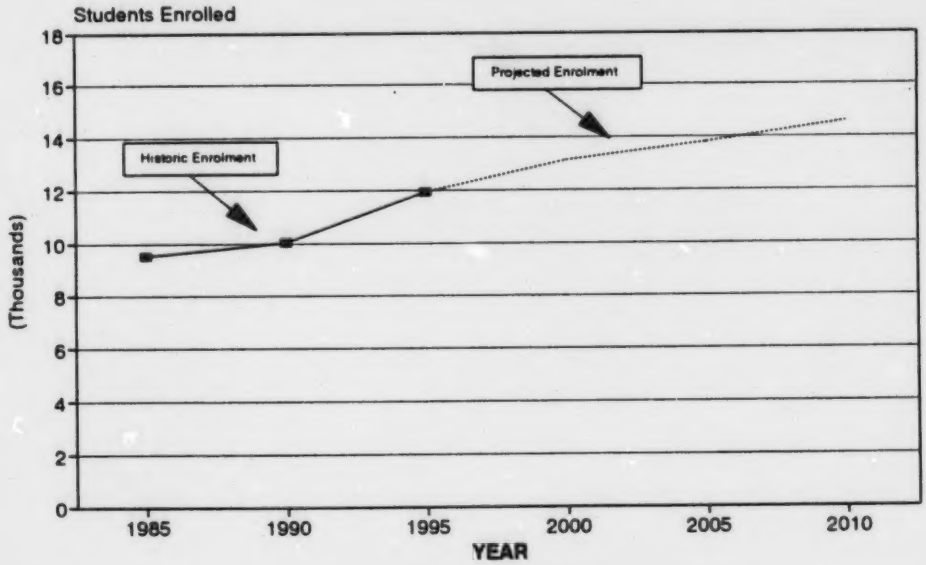
Historic and Projected Elementary/Secondary Enrolment of On-Reserve Registered Indian Students, Atlantic Region, 1985 - 2010



Sources: Nominal Roll; Basic Departmental Data, 1996; Indian Register.

Figure B-2

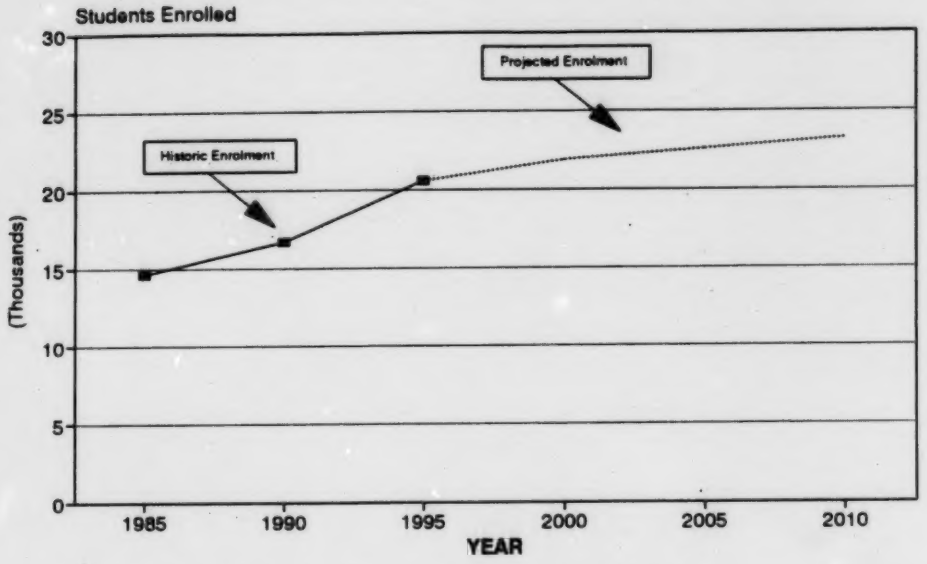
Historic and Projected Elementary/Secondary Enrolment of On-Reserve Registered Indian Students, Quebec Region, 1985 - 2010



Sources: Nominal Roll; Basic Departmental Data, 1996; Indian Register.

Figure B-3

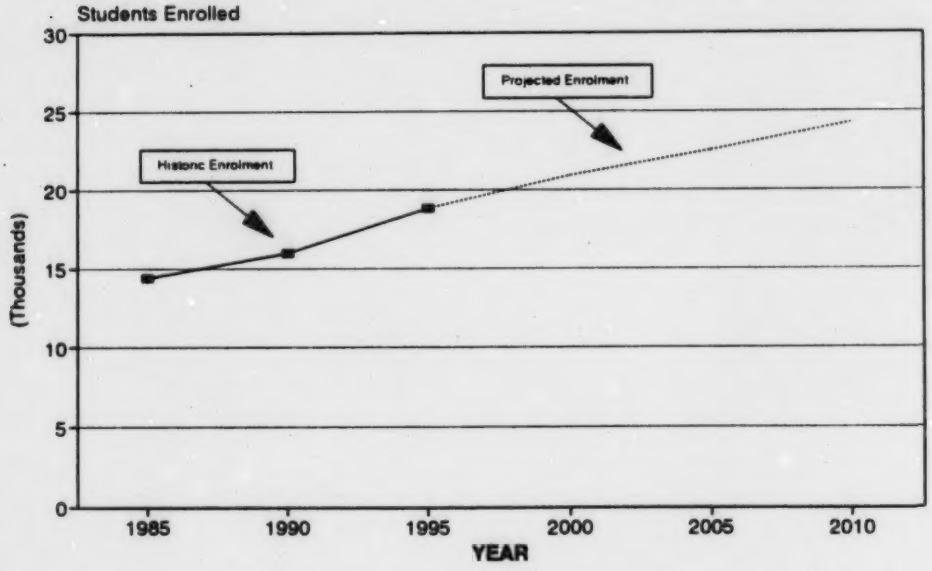
Historic and Projected Elementary/Secondary Enrolment of On-Reserve Registered Indian Students, Ontario Region, 1985 - 2010



Sources: Nominal Roll; Basic Departmental Data, 1996; Indian Register.

Figure B-4

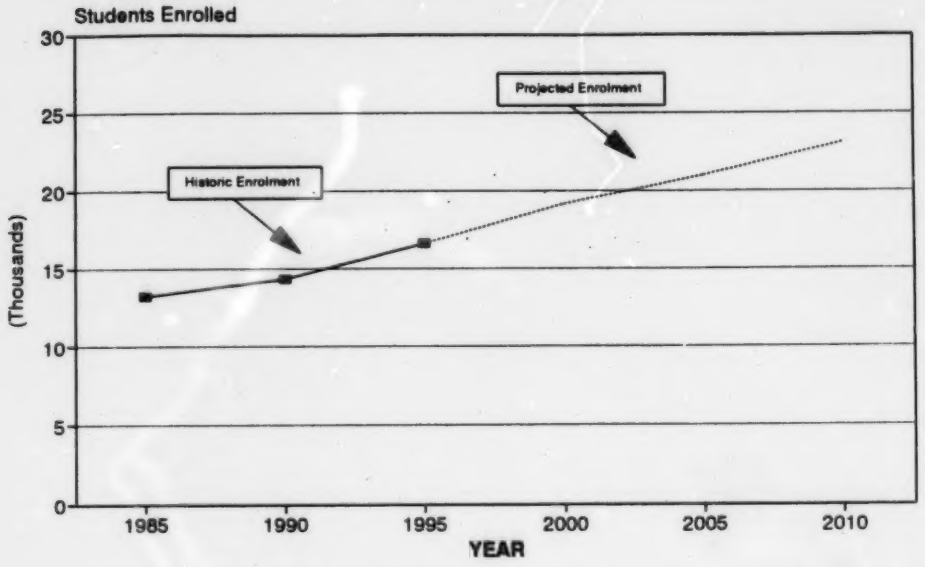
Historic and Projected Elementary/Secondary Enrolment of On-Reserve Registered Indian Students, Manitoba Region, 1985 - 2010



Sources: Nominal Roll; Basic Departmental Data, 1996; Indian Register.

Figure B-5

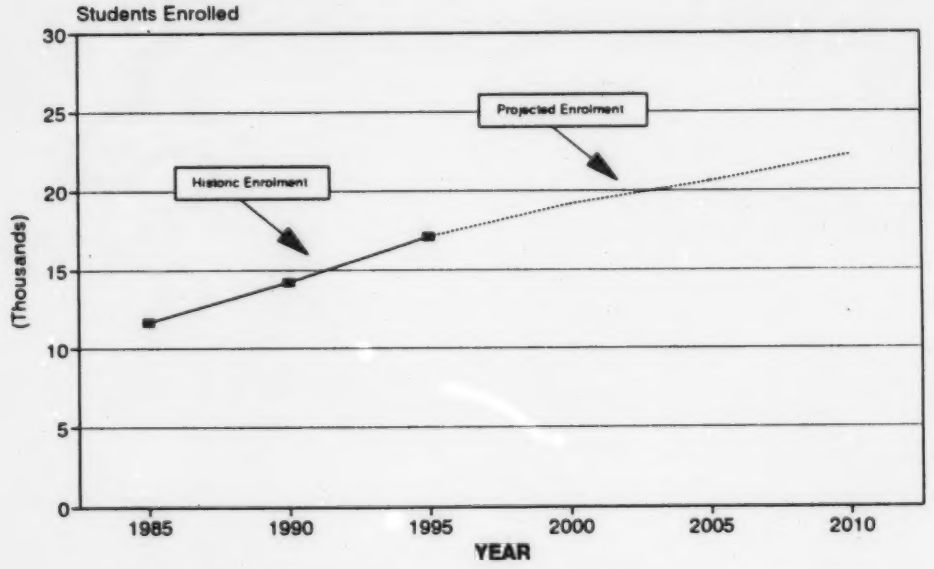
Historic and Projected Elementary/Secondary Enrolment of On-Reserve Registered Indian Students, Saskatchewan Region, 1985 - 2010



Sources: Nominal Roll; Basic Departmental Data, 1996; Indian Register.

Figure B-6

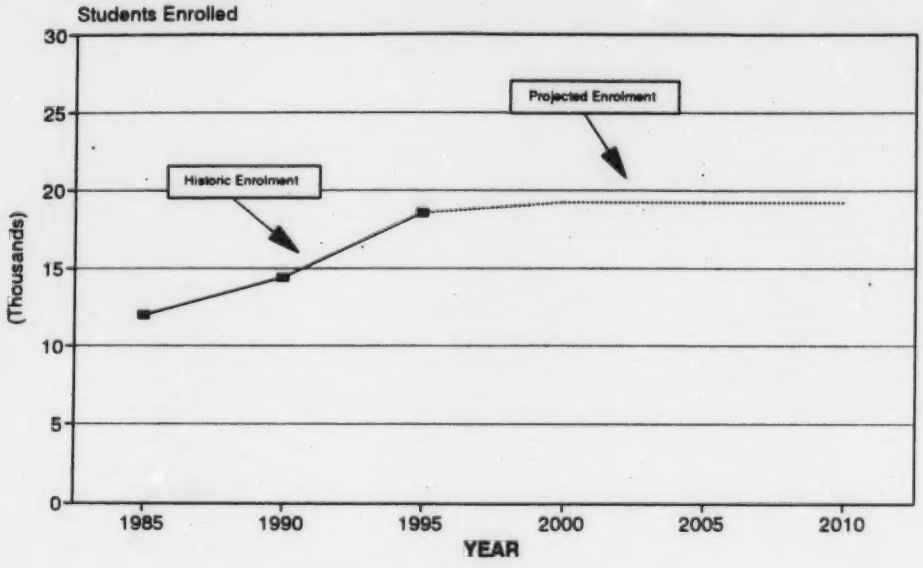
Historic and Projected Elementary/Secondary Enrolment of On-Reserve Registered Indian Students, Alberta Region, 1985 - 2010



Sources: Nominal Roll; Basic Departmental Data, 1996; Indian Register.

Figure B-7

Historic and Projected Elementary/Secondary Enrolment of On-Reserve Registered Indian Students, British Columbia Region, 1985 - 2010

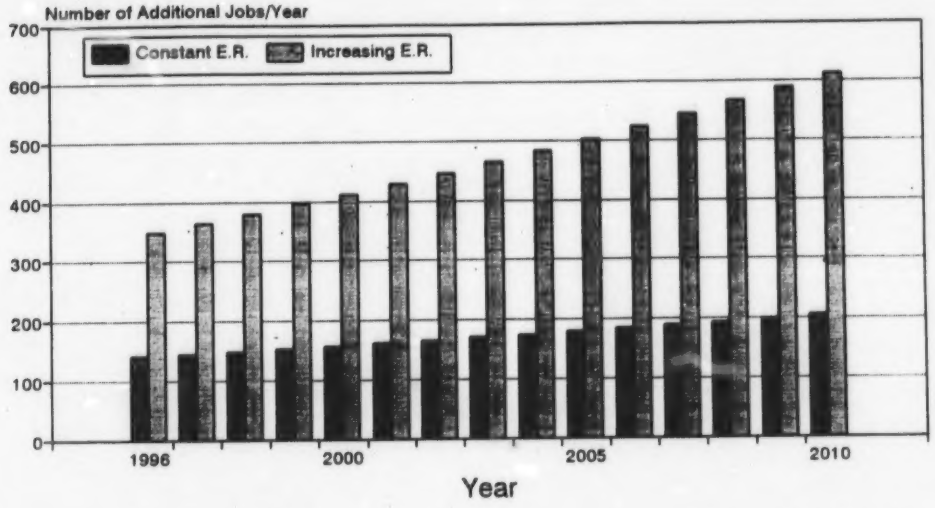


Sources: Nominal Roll; Basic Departmental Data, 1996; Indian Register.

APPENDIX C: Regional Employment Scenarios

Figure C-1

Annual Job Growth Required to Achieve Two Employment Rate Scenarios Among the Registered Indian Population 15+, Atlantic Region, 1996-2010

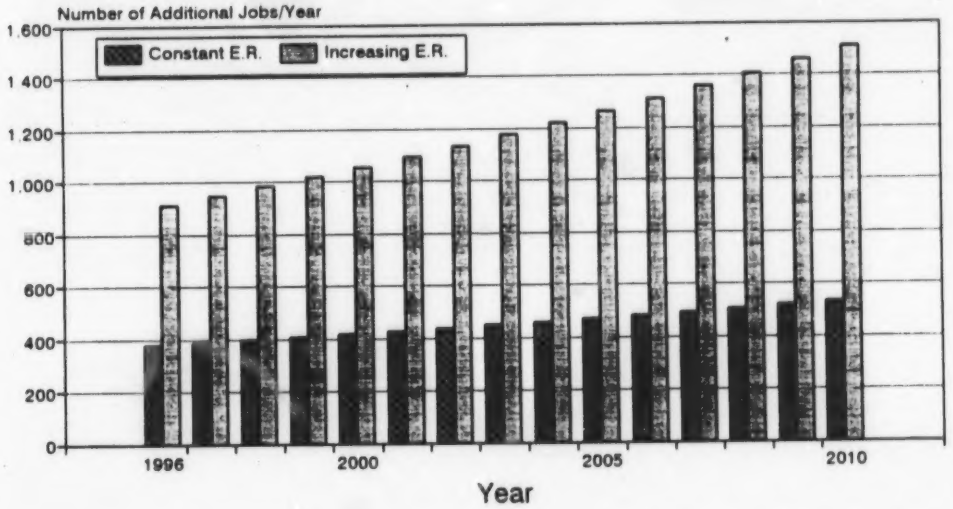


Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes registered Indian E.R. will rise to equal the regional 1991 E.R. by 2010.

Figure C-2

Annual Job Growth Required to Achieve Two Employment Rate Scenarios Among the Registered Indian Population 15+, Quebec, 1996-2010

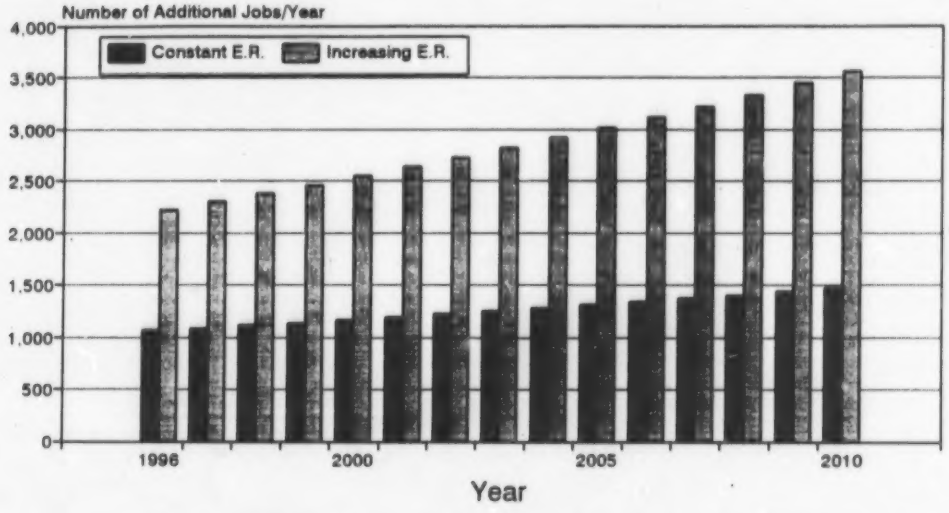


Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes registered Indian E.R. will rise to equal the provincial 1991 E.R. by 2010.

Figure C-3

Annual Job Growth Required to Achieve Two Employment Rate Scenarios Among the Registered Indian Population 15+, Ontario, 1996-2010

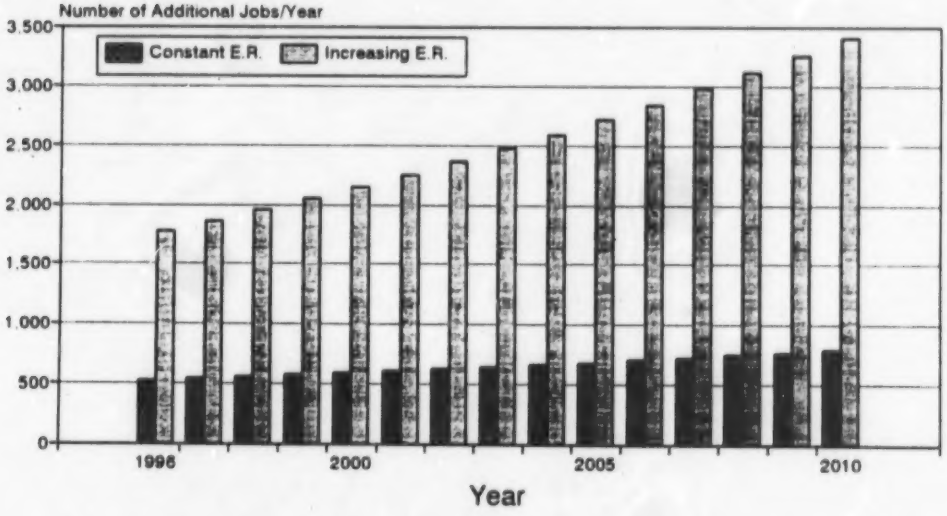


Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes registered Indian E.R. will rise to equal the regional 1991 E.R. by 2010.

Figure C-4

Annual Job Growth Required to Achieve Two Employment Rate Scenarios Among the Registered Indian Population 15+, Manitoba, 1996-2010

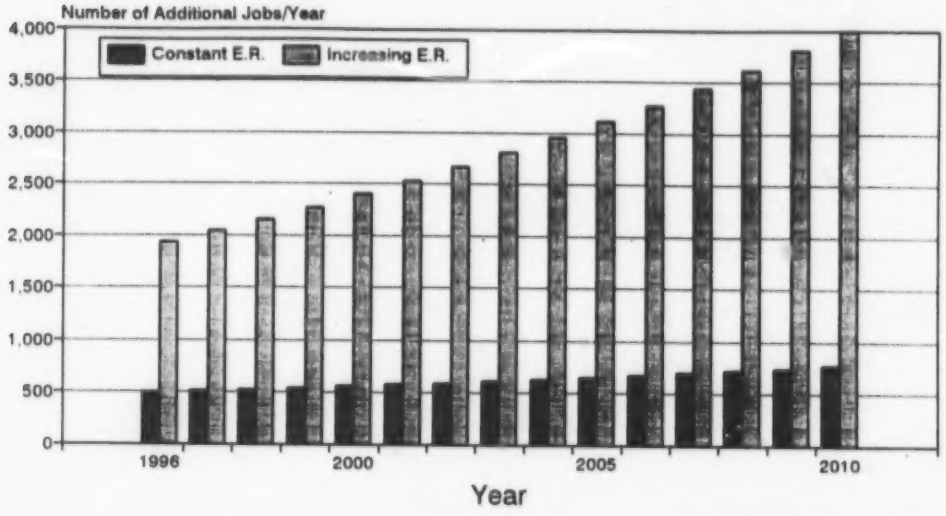


Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes registered Indian E.R. will rise to equal the provincial 1991 E.R. by 2010.

Figure C-5

Annual Job Growth Required to Achieve Two Employment Rate Scenarios Among the Registered Indian Population 15+, Saskatchewan, 1996-2010

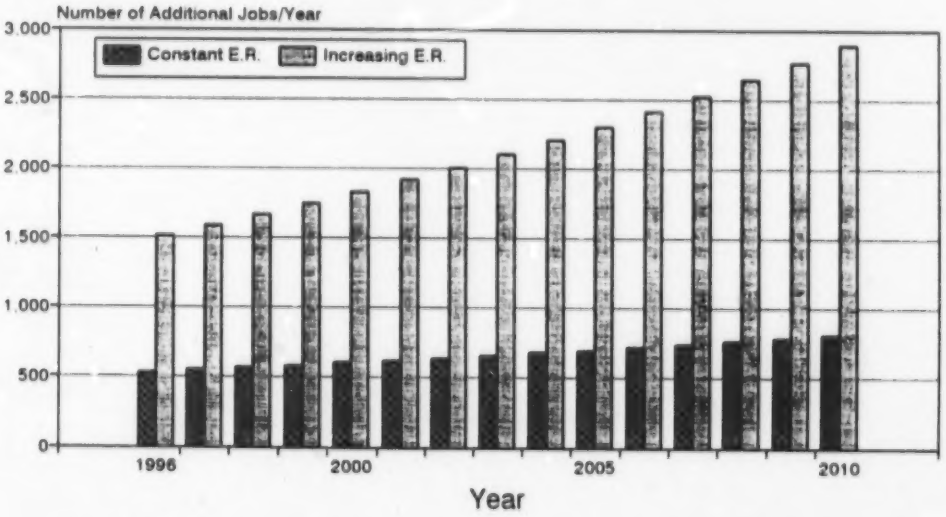


Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes registered Indian E.R. will rise to equal the provincial 1991 E.R. by 2010.

Figure C-6

Annual Job Growth Required to Achieve Two Employment Rate Scenarios Among the Registered Indian Population 15+, Alberta, 1996-2010

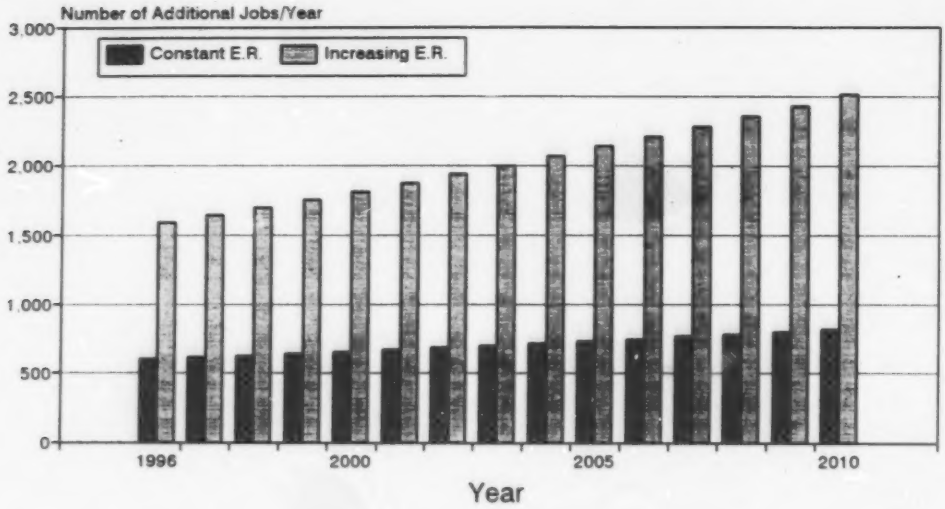


Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes registered Indian E.R. will rise to equal the provincial 1991 E.R. by 2010.

Figure C-7

Annual Job Growth Required to Achieve Two Employment Rate Scenarios Among the Registered Indian Population 15+, British Columbia, 1996-2010

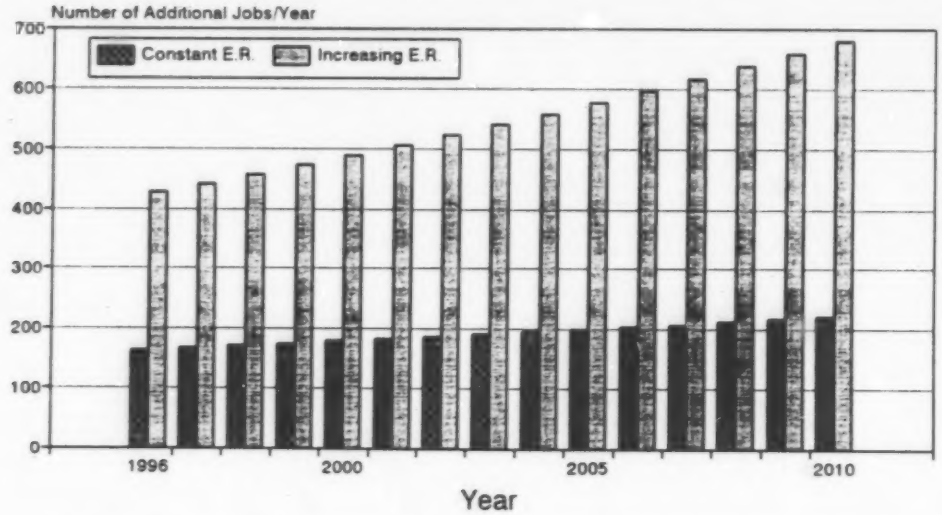


Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes registered Indian E.R. will rise to equal the provincial 1991 E.R. by 2010.

Figure C-8

Annual Job Growth Required to Achieve Two Employment Rate Scenarios Among the Registered Indian Population 15+, Northern Canada, 1996-2010



Sources: Nault et. al. 1993; 1991 Census Tabulation prepared for Indian and Northern Affairs Canada.

Notes: E.R. refers to employment rate (number employed/total population).
Constant E.R. assumes a constant employment rate equal to the 1991 Reg. Indian employment rate.
Increasing E.R. assumes registered Indian E.R. will rise to equal the regional 1991 E.R. by 2010.